RM-E300

SERVICE MANUAL

AEP Model

SPECIFICATIONS

Video input	Phono jack (1) 1 Vp-p,75 ohms, unbalanced, sync negative
S video input	4-pin mini-DIN (1) Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative Chrominance signal: 0.286 Vp-p (NTSC) or 0.300 Vp-p (PAL), 75 ohms, unbalanced
Video output	Phono jack (1) 1 Vp-p,75 ohms, unbalanced, sync negative
S video output	4-pin mini-DIN (1) Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative Chrominance signal: 0.286 Vp-p (NTSC) or 0.300 Vp-p (PAL), 75 ohms, unbalanced
Audio input	Phono jacks (2)
Audio output	Phono jacks (2)

CONTROL L connector for the player
Stereo mini-minijack (1)

CONTROL L connector for the recorder
Stereo mini-minijack (1)

CONTROL S connector for the recorder
Minijack (1)

General

Power requirement 6 V DC IN

Power consumption 5 W

Dimensions Approx. 355 × 80 × 230 mm (w/h/d) (14 × 3 1/4 × 9 1/8 inches)

Weight Approx. 1.5 kg (3 lb 5 oz)

— continued on next page —

MICROFILM

VIDEO EDITING CONTROLLER/TITLER

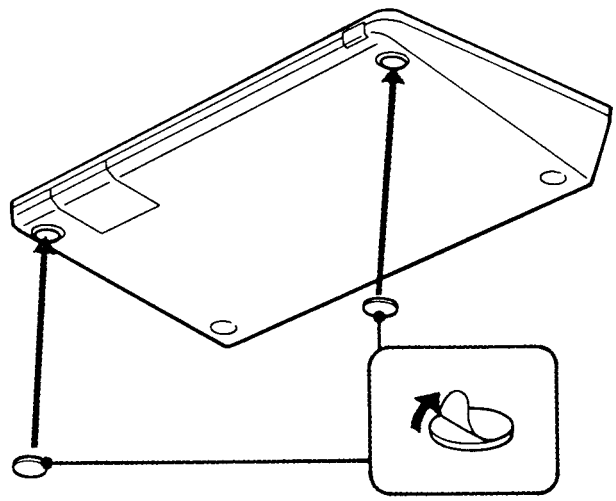
SONY®

Accessories supplied

Connecting cable for the CONTROL L connector
L shaped stereo mini-miniplug ↔ 5-pin plug (2)
L shaped stereo mini-miniplug
↔ L shaped stereo mini-miniplug (2)
Connecting cable for the CONTROL S connector
L shaped miniplug ↔ L shaped miniplug (1)
Lithium batteries CR2025 (2)
AC power adaptor AC-D4L (1)

Design and specifications are subject to change without notice.

How to use the supplied spacers
Attach the spacers to the front rubber feet as illustrated.



SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

SAFETY-RELATED COMPONENT WARNING!!

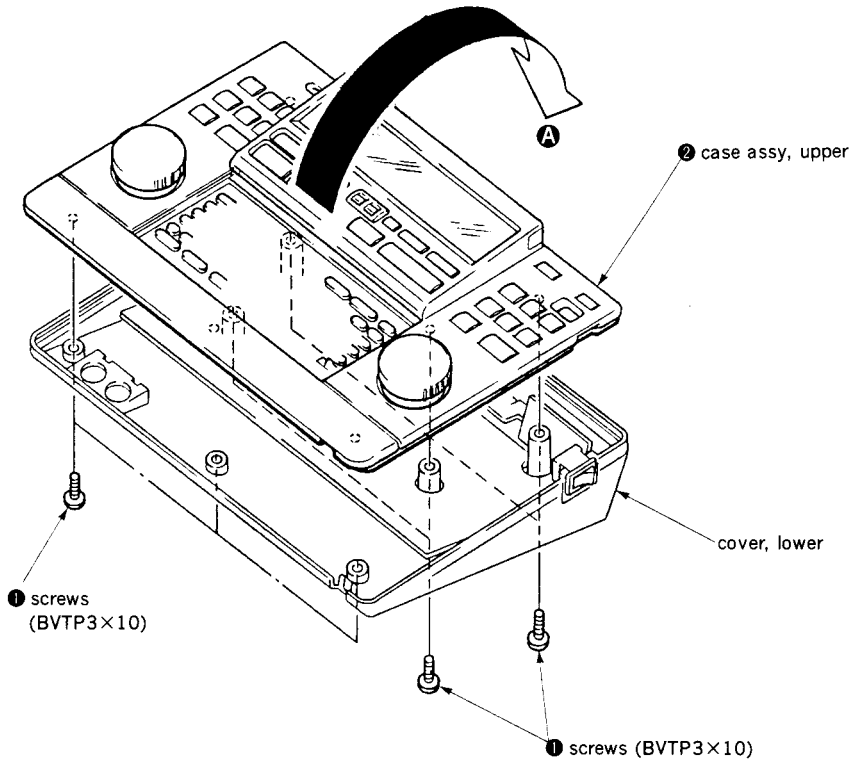
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

TABLE OF CONTENTS

SECTION 1
DISASSEMBLY

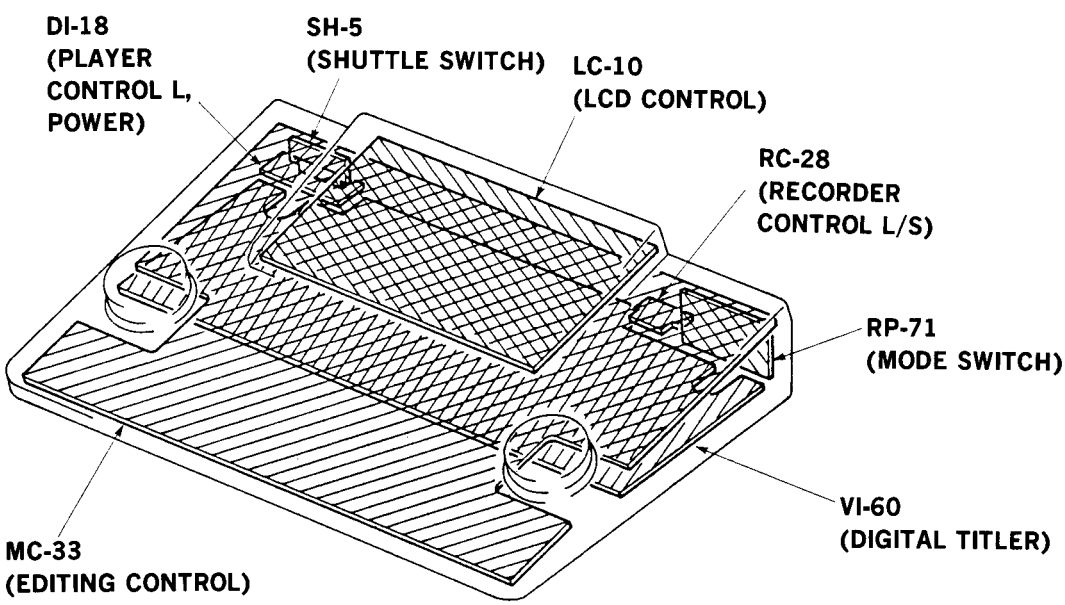
1-1. REMOVAL OF THE CASE ASSY, UPPER

1) Remove the seven screws❶.
2) Lift upper case assy❷ in the direction of arrow Ⓐ.

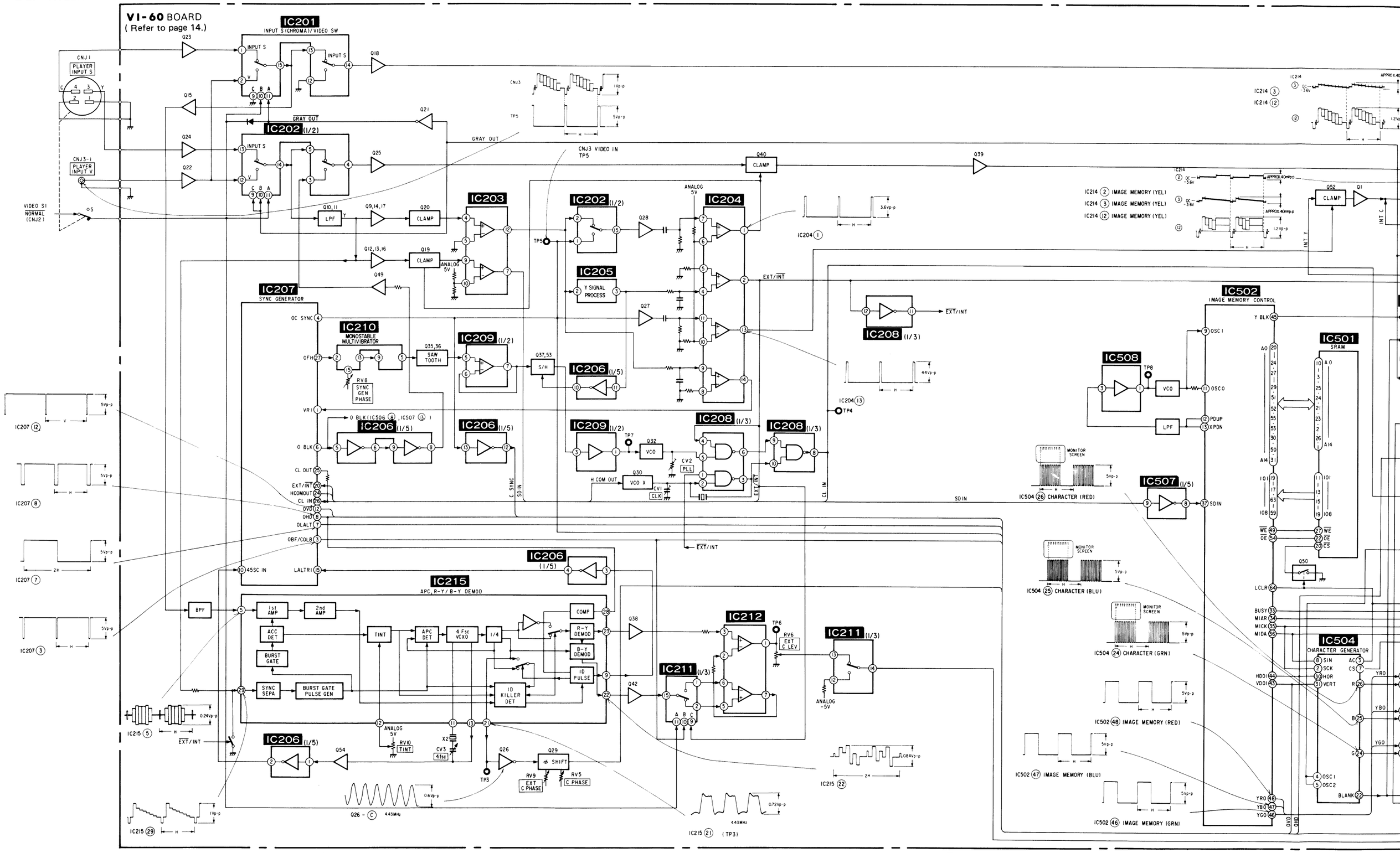


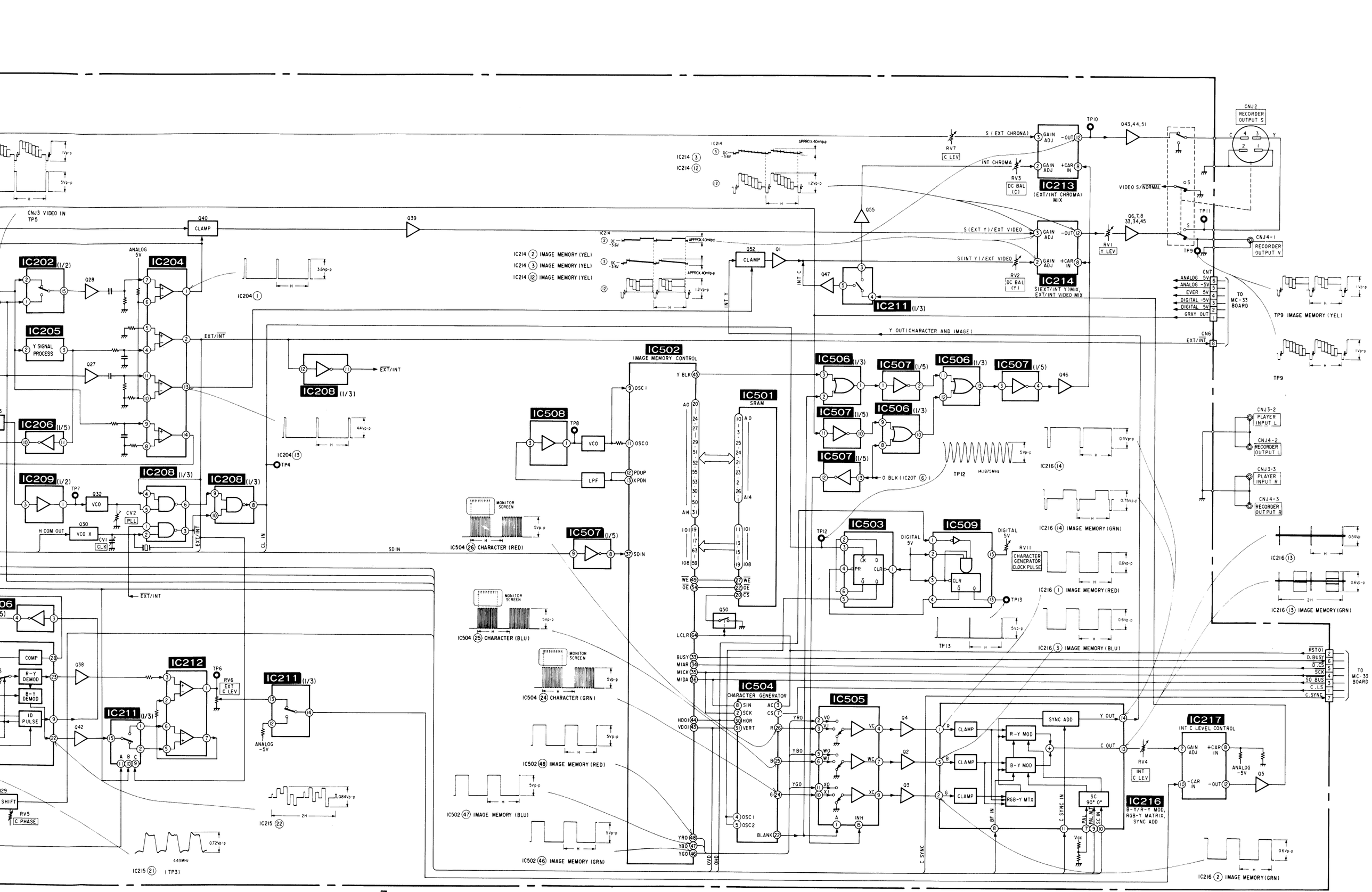
SECTION 2
DIAGRAMS

2-1. CIRCUIT BOARDS LOCATION

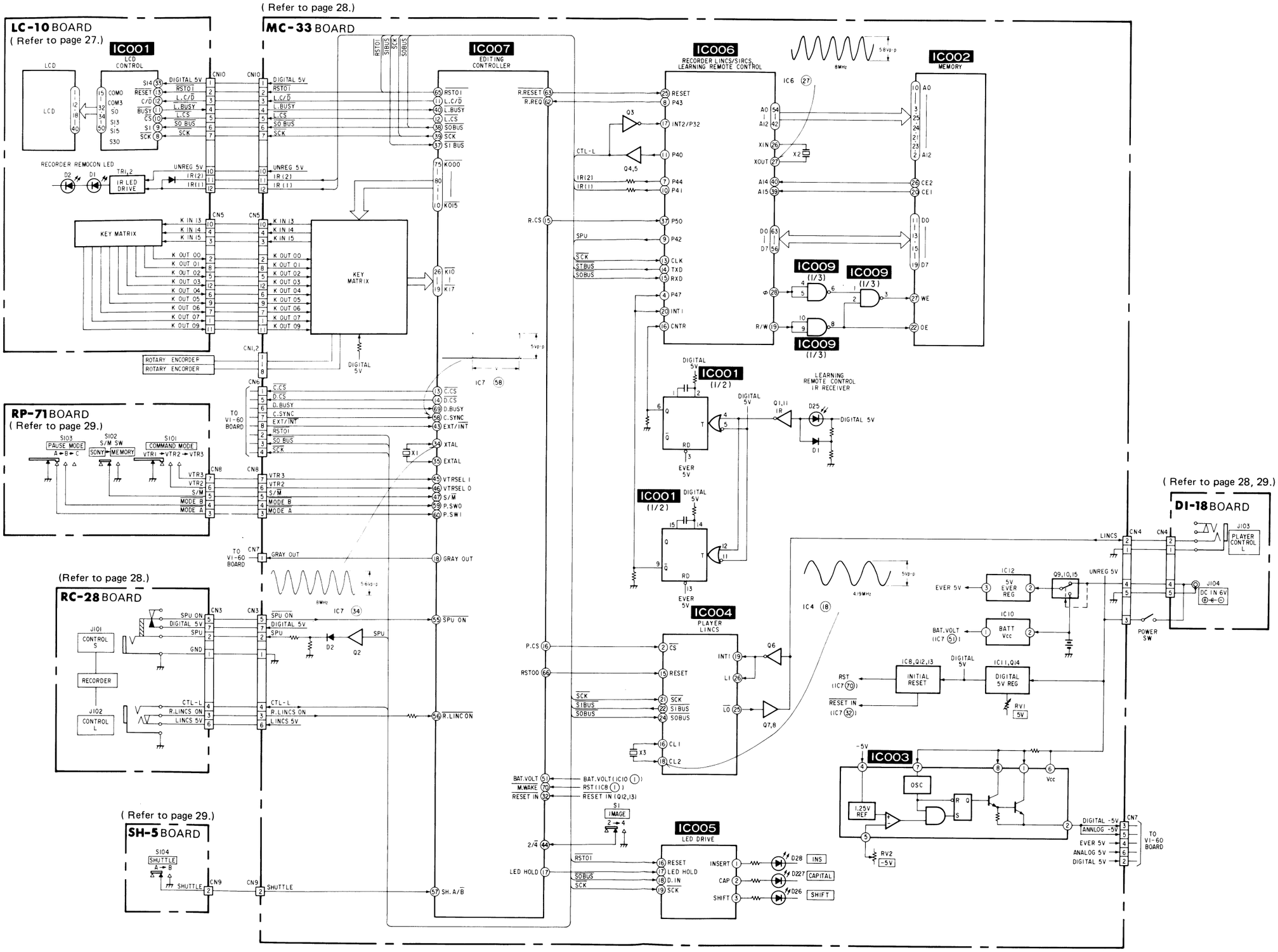


2-2. TITLER BLOCK DIAGRAM





2-3. EDITING CONTROLLER BLOCK DIAGRAM



SECTION 3
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.

Note on printed wiring boards:

- ○ : indicates a lead wire mounted on the component side.
- ● : Through hole.
- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.*
- Circled numbers refer to waveforms.*
- * : Indicates by the color red.

Caution:
Pattern face side: (Conductor Side) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side) Parts on the parts face side seen from the pattern face are indicated.

● Digital transistor : transistor with resistor.
VI-60 board : Q021, Q031, Q036, Q049, Q050
MC-33 board : Q004, Q006 - Q008

Note on schematic diagram:

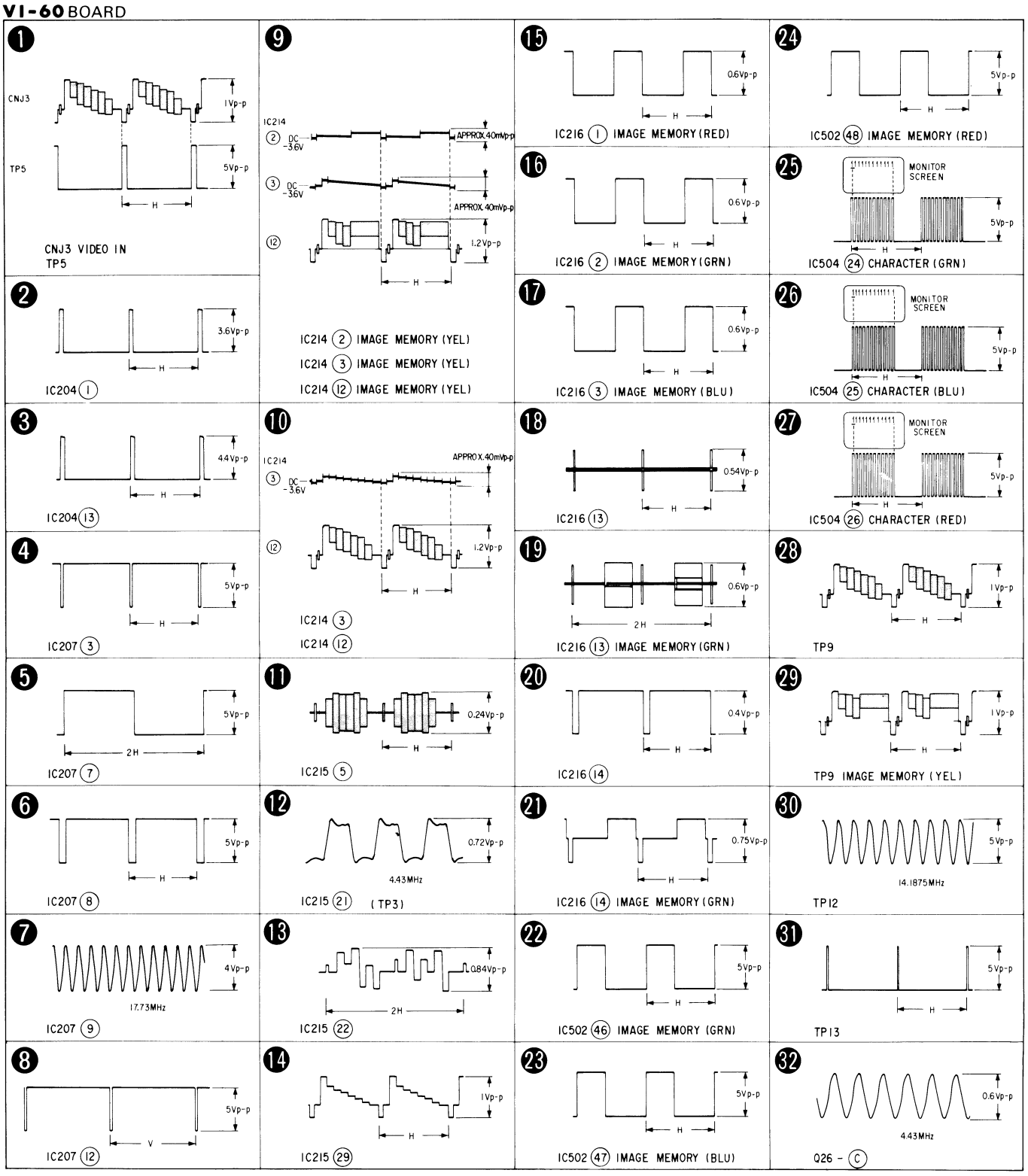
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- Chip resistor are 1/10W unless otherwise noted.
- Melf resistor are 1/5W unless otherwise noted.
  kΩ: 1000Ω, MΩ: 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF : μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and semifixed resistors have characteristic curve B, unless other wise noted.
- ⊣▭⊢ : nonflammable resistor.
- ▭ : panel designation.
- ▭ : adjustment for repair.*
- ▱ : IN/OUT direction of (+, –) B line.*
- Circled numbers refer to waveforms.*
- Voltages are dc between ground and measurement points.*
- Readings are taken with a color-bar signal input.*
- Readings are taken with a digital multimeter (DC10MΩ).*
- Voltage variations may be noted due to normal production tolerances.*
- * : Indicates by the color red.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

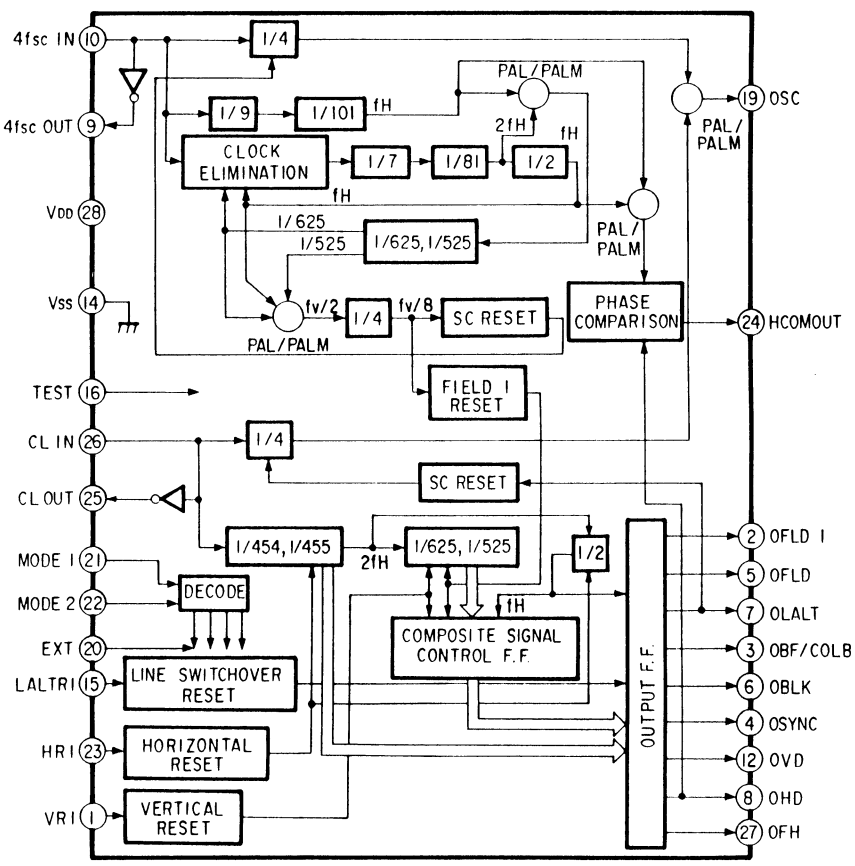
When indicating parts by reference number, please include the board name.

3-1. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

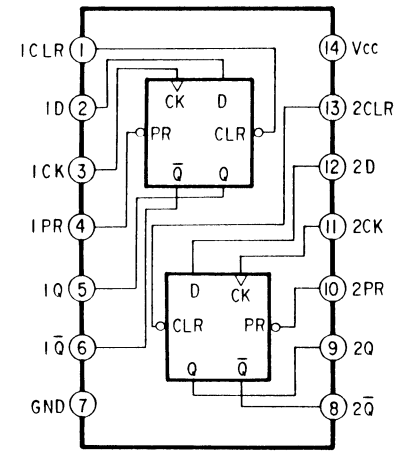
VI-60 BOARD



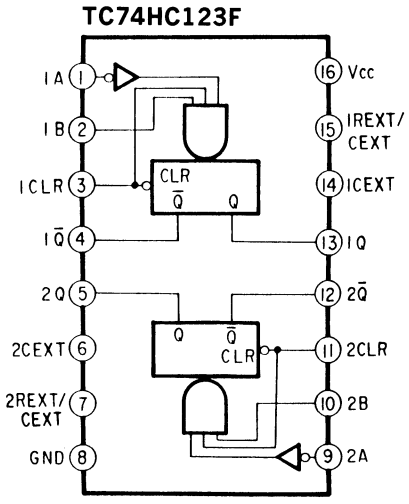
CX7930A



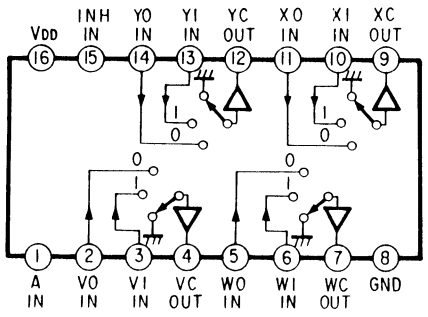
TC74HC74F



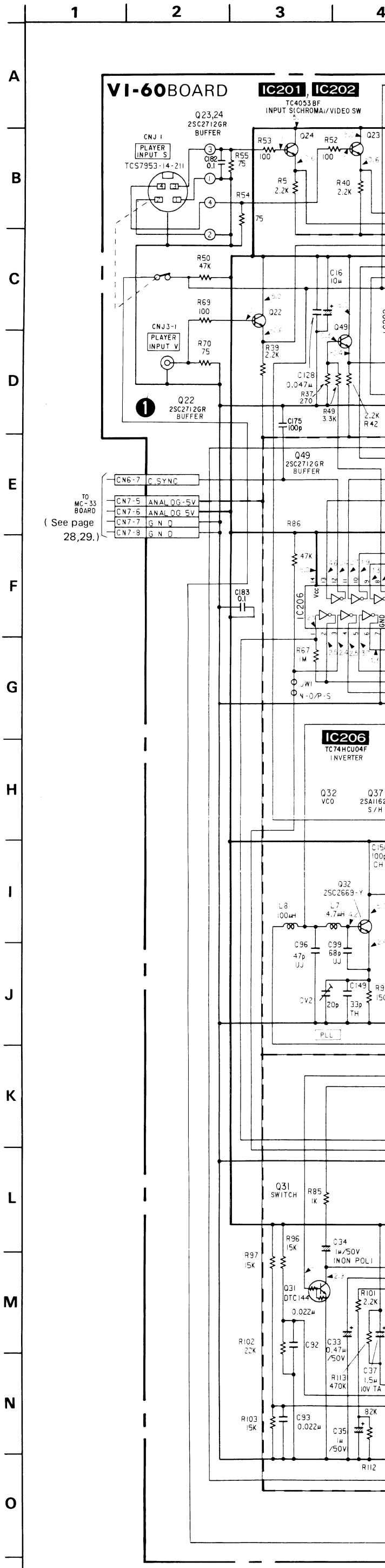
TC74HC123F

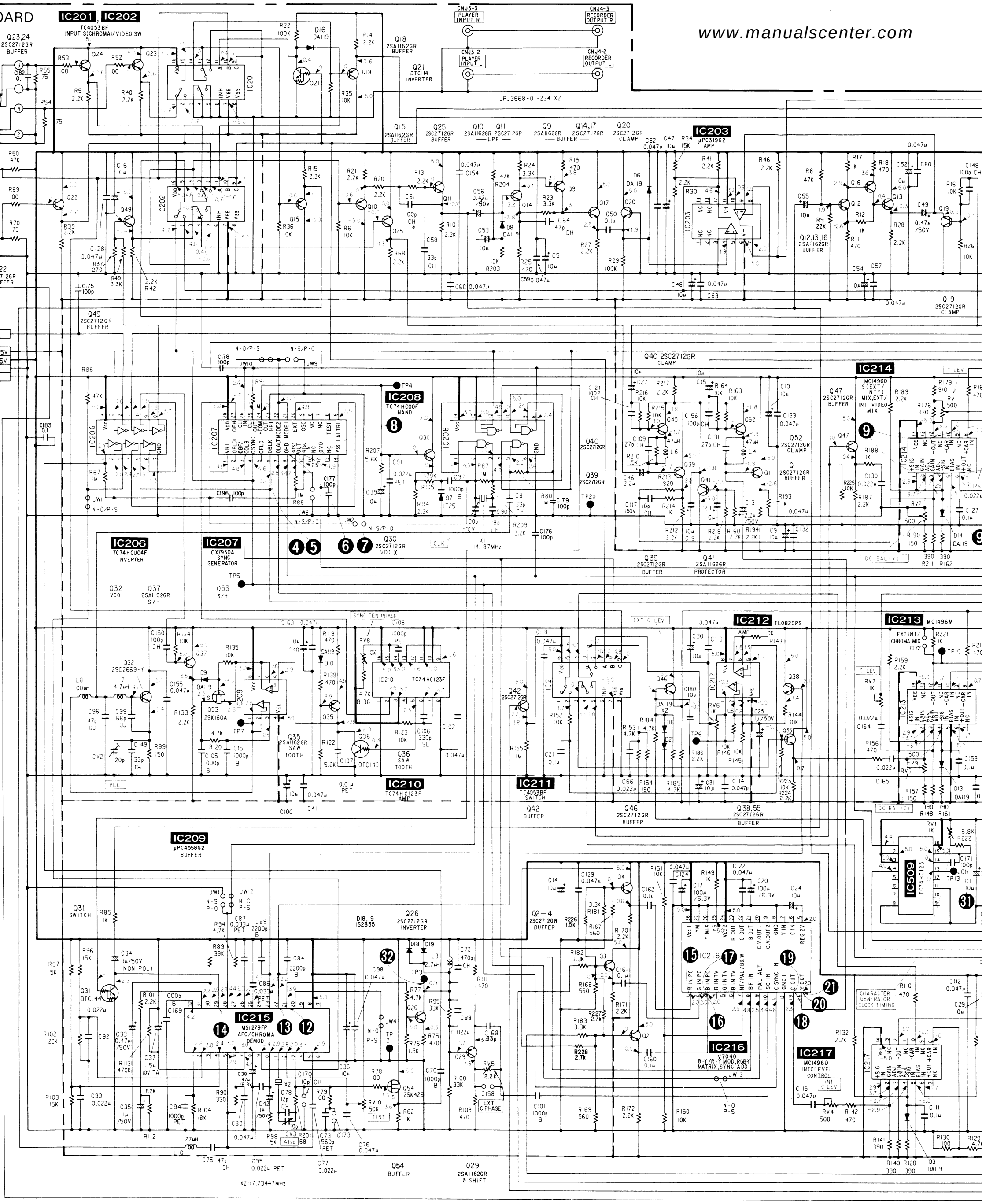


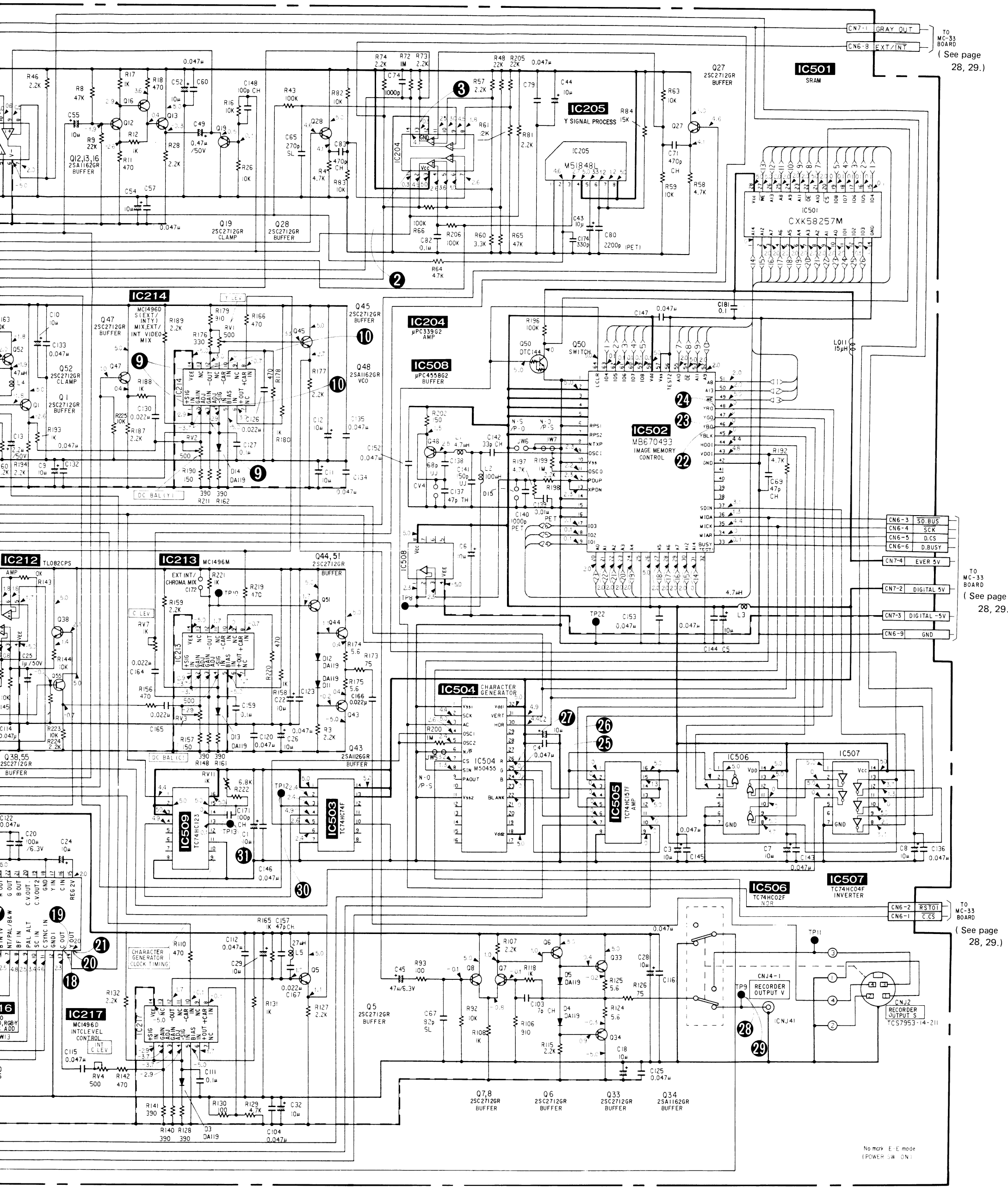
TC74HC157F



VI-60 (DIGITAL TITLER) SCHEMATIC DIAGRAM
—Ref. No. VI-60 BOARD ; 1,000 series—







DIGITAL TITLER

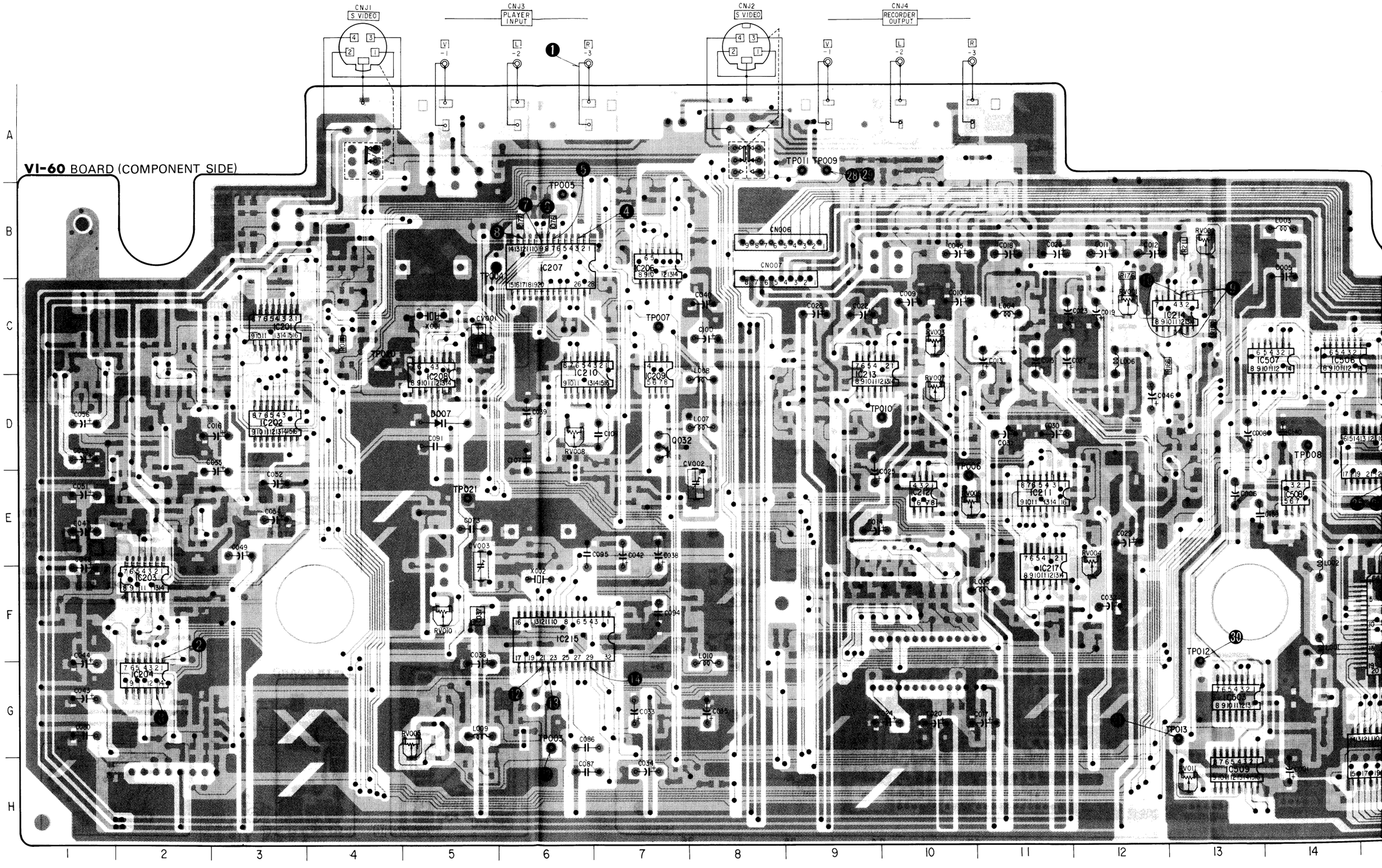
DIGITAL TITLER

VI-60 (DIGITAL TITLER) PRINTED WIRING BOARD

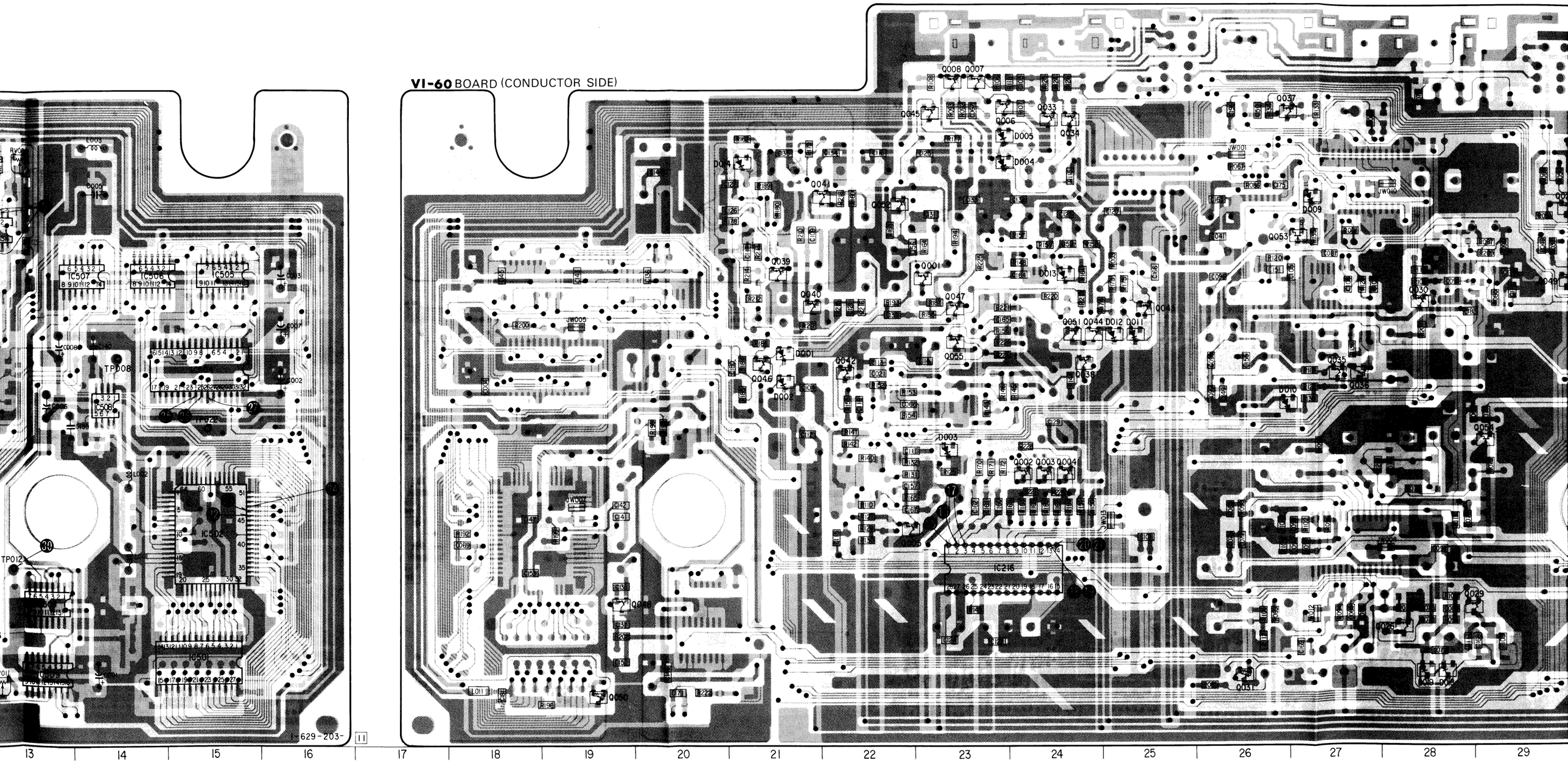
—Ref. No. VI-60 BOARD ; 1,000 series—

VI-60 BOARD

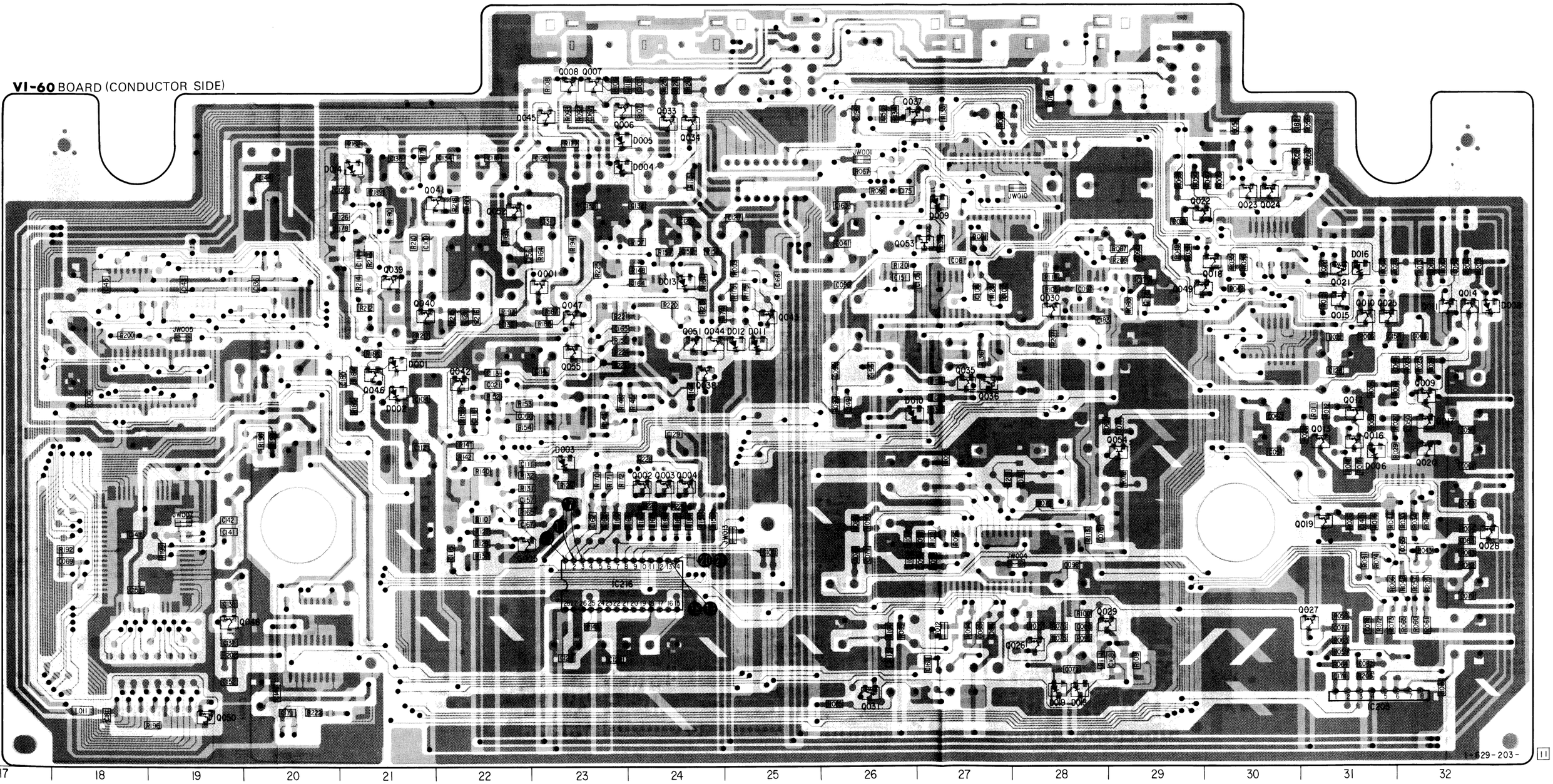
CN006	B-8
CN007	C-8
CV001	C-5
CV002	E-8
CV003	E-5
CV004	G-14
D001	D-21
D002	E-21
D003	E-23
D004	B-24
D005	B-24
D006	E-31
D007	D-5
D008	D-33
D009	C-27
D010	E-27
D011	D-25
D012	D-25
D013	C-24
D014	B-21
D016	C-31
D018	H-28
D019	H-28
IC201	C-3
IC202	D-3
IC203	F-2
IC204	G-2
IC205	H-31
IC206	B-7
IC207	B-6
IC208	D-5
IC209	D-7
IC210	D-7
IC211	E-11
IC212	E-10
IC213	C-9
IC214	C-13
IC215	F-6
IC216	F-23
IC217	F-11
IC501	G-15
IC502	F-15
IC503	G-13
IC504	D-15
IC505	C-15
IC506	C-14
IC507	C-14
IC508	E-14
IC509	H-13
Q001	C-23
Q002	E-24
Q003	E-24
Q004	E-24
Q005	F-22
Q006	B-24
Q007	A-23
Q008	A-23
Q009	E-32
Q010	D-31
Q011	D-32
Q012	E-31
Q013	E-31
Q014	D-32
Q015	D-31
Q016	E-31
Q017	E-32
Q018	C-30
Q019	F-31
Q020	E-32
Q021	C-31
Q022	C-30
Q023	C-30
Q024	C-30
Q025	D-32
Q026	G-28
Q027	G-31
Q028	F-33
Q029	G-29
Q030	D-28
Q031	H-26
Q032	D-7
Q033	B-24
Q034	B-24
Q035	D-27
Q036	D-27
Q037	B-27
Q038	D-24
Q039	C-21
Q040	D-21
Q041	C-22
Q042	D-22
Q043	D-25
Q044	D-24
Q045	B-23
Q046	D-21
Q047	D-23
Q048	G-19
Q049	C-30
Q050	H-19
Q051	D-24
Q052	C-22
Q053	C-27
Q054	E-29
Q055	D-23
RV001	C-12
RV002	B-13
RV003	C-10
RV004	E-12
RV005	G-5
RV006	E-10
RV007	D-10
RV008	D-6
RV010	F-5
RV011	H-13
TP003	G-6
TP004	D-4
TP005	B-6
TP006	D-10
TP007	C-7
TP008	D-14
TP009	A-9
TP010	D-10
TP011	A-9
TP012	F-13
TP013	G-13
TP020	C-4
TP021	E-5
TP022	E-15



VI-60 BOARD (CONDUCTOR SIDE)



VI-60 BOARD (CONDUCTOR SIDE)



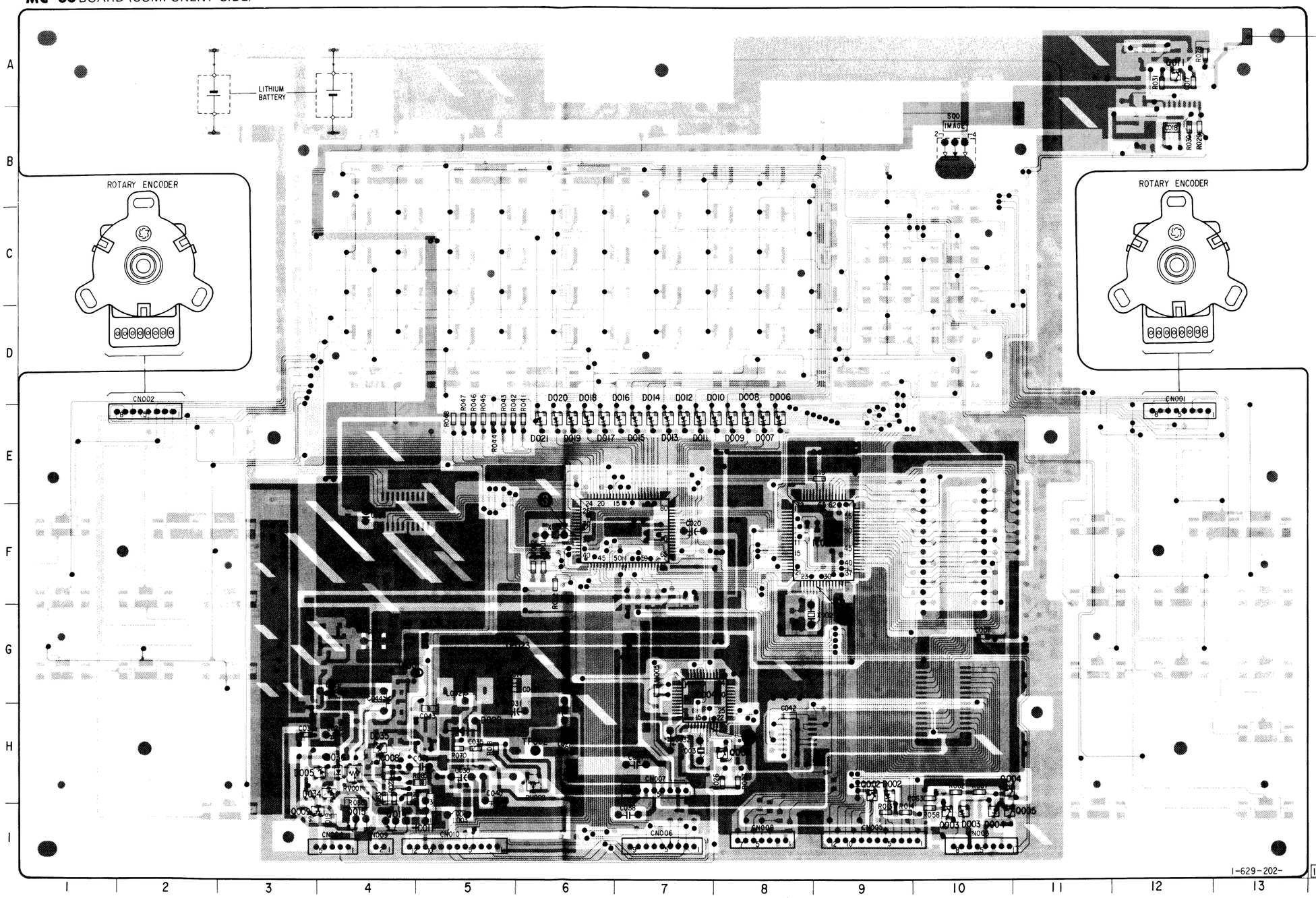
MC-33 (EDITING CONTROL), LC-10 (LCD CONTROL), RP-71 (MODE SWITCH), SH-5 (SHUTTLE SWITCH), RC-28 (RECORDER CONTROL L/S), DI-18 (PLAYER CONTROL L, POWER) PRINTED WIRING BOARDS

—Ref. No. MC-33 BOARD ; 2,000 series, LC-10 BOARD ; 3,000 series, RP-71 and SH-5 BOARDS ; 4,000 series, RC-28 and DI-18 BOARDS ; 5,000 series—

MC-33 BOARD

CN001	D-12
CN002	D-2
CN003	I-10
CN004	I-4
CN005	I-9
CN006	I-7
CN007	H-6
CN008	I-8
CN009	I-4
CN010	I-5
D001	A-15
D002	H-9
D003	H-10
D004	I-10
D005	H-4
D006	D-8
D007	E-8
D008	D-8
D009	E-8
D010	D-7
D011	E-7
D012	D-7
D013	E-7
D014	D-7
D015	E-7
D016	D-6
D017	E-6
D018	D-6
D019	E-6
D020	D-6
D021	E-6
D022	H-5
D023	I-20
D024	H-20
D025	A-14
D026	B-20
D027	B-22
D028	B-23
D029	G-23
D030	G-23
D031	H-24
D032	G-20
D034	H-4
D035	H-4
D036	H-4
IC001	B-15
IC002	G-17
IC003	H-22
IC004	G-7
IC005	E-23
IC006	F-8
IC007	F-6
IC008	H-4
IC009	H-19
IC010	G-24
IC011	I-5
IC012	H-24
Q001	A-16
Q002	H-9
Q003	I-10
Q004	H-10
Q005	I-11
Q006	H-8
Q007	H-20
Q008	H-20
Q009	H-3
Q010	H-24
Q011	A-12
Q012	H-23
Q013	H-23
Q014	I-4
Q015	I-4
Q016	G-24
Q017	G-24
RV001	H-4
RV002	H-6

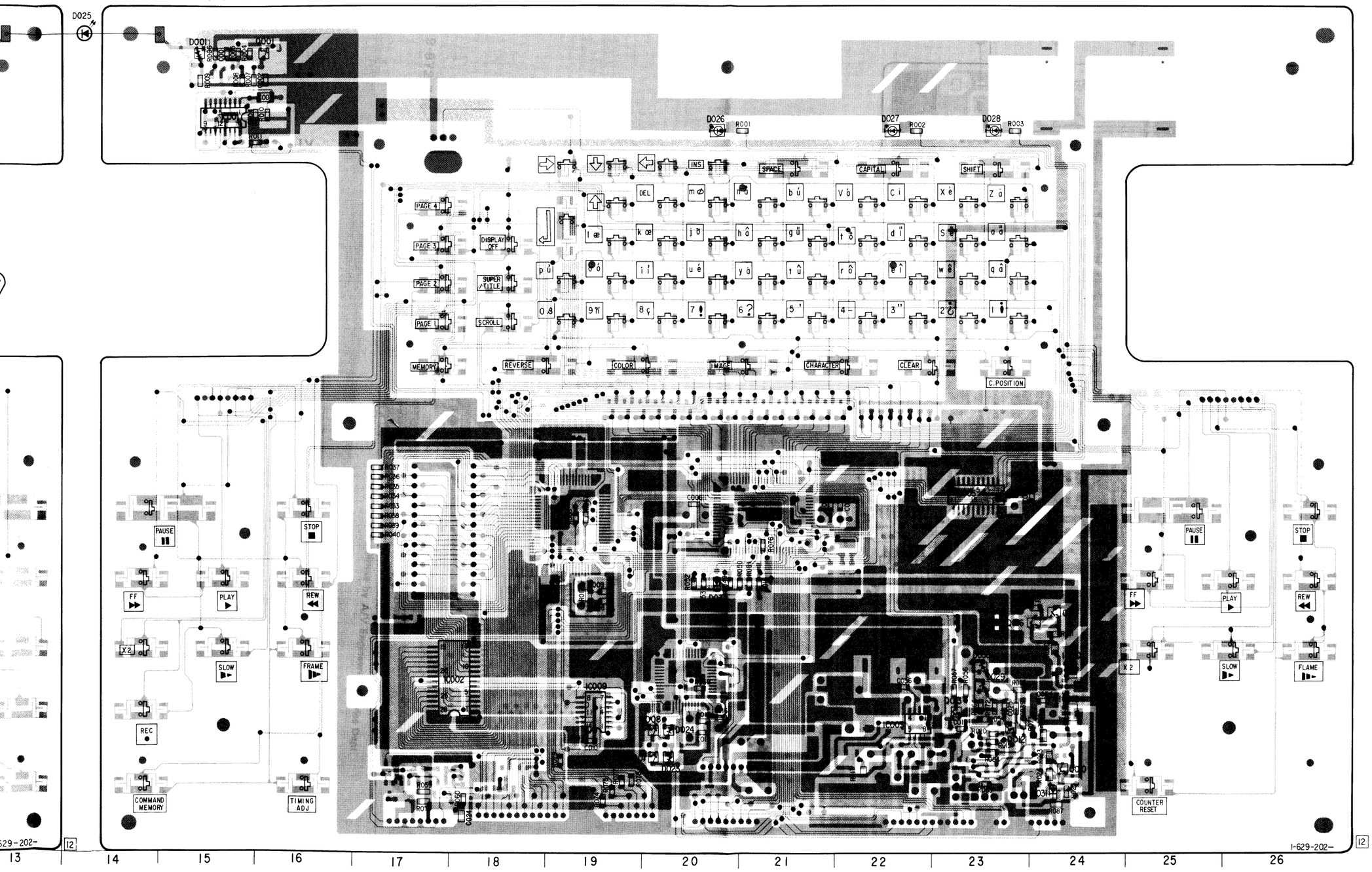
MC-33 BOARD (COMPONENT SIDE)



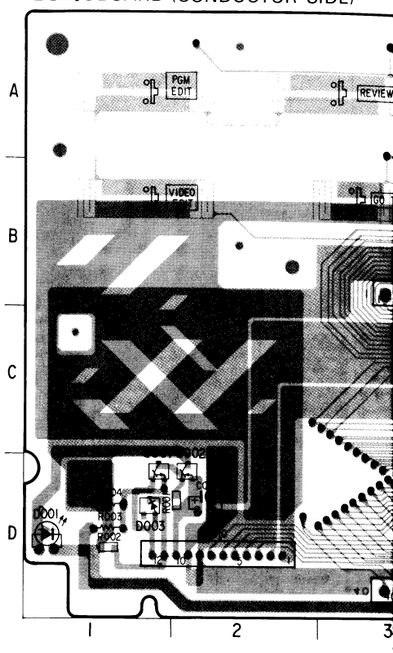
MC-33 BOARD (CONDUCTOR SIDE)

1-629-202-

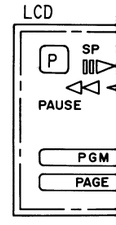
MC-33 BOARD (CONDUCTOR SIDE)



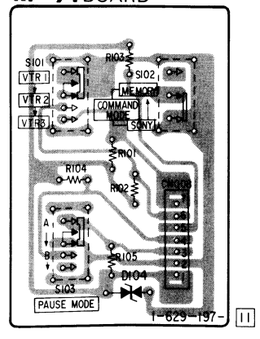
LC-10 BOARD (CONDUCTOR SIDE)



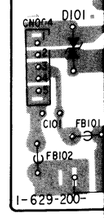
LCD

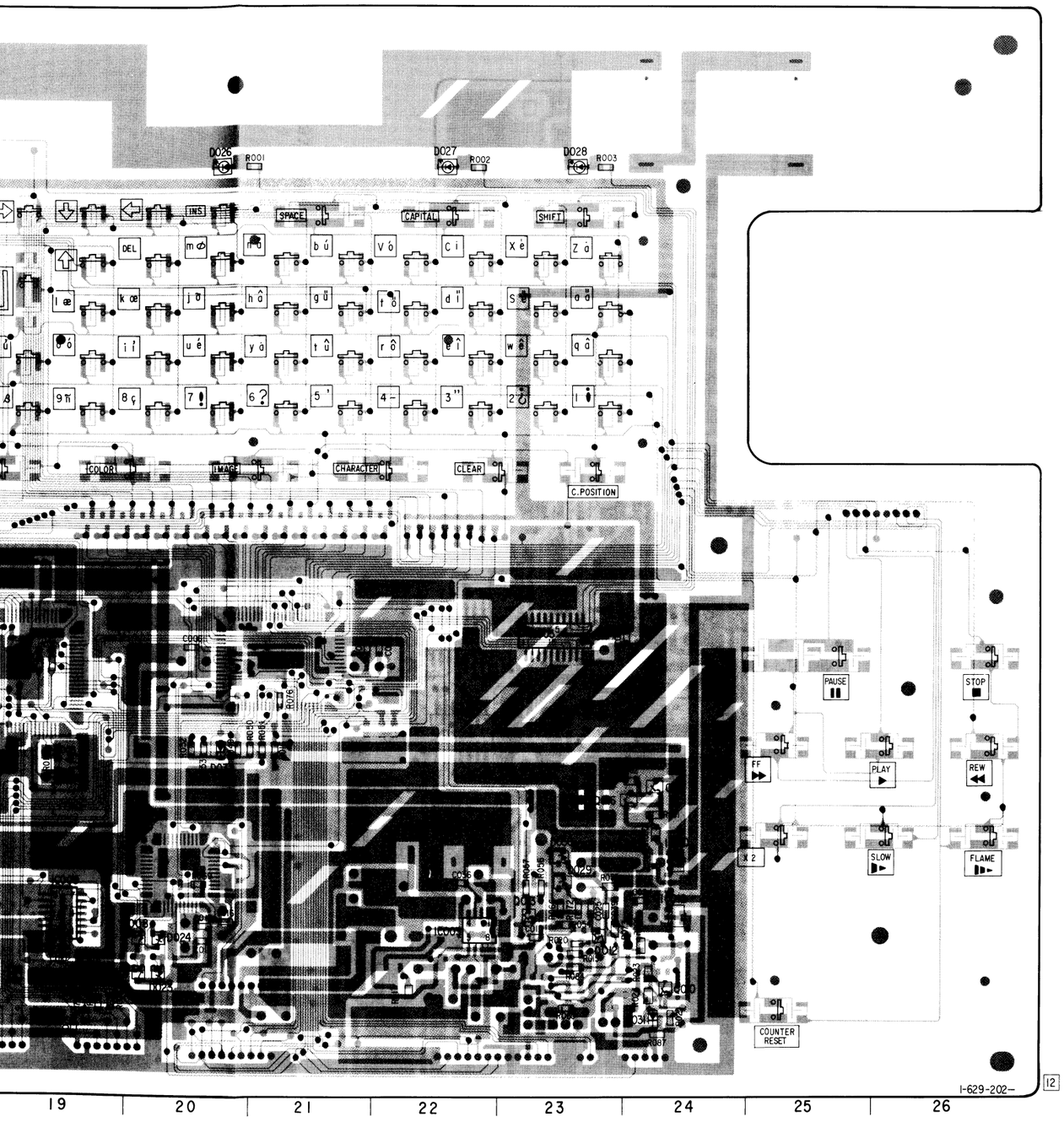


RP-71 BOARD

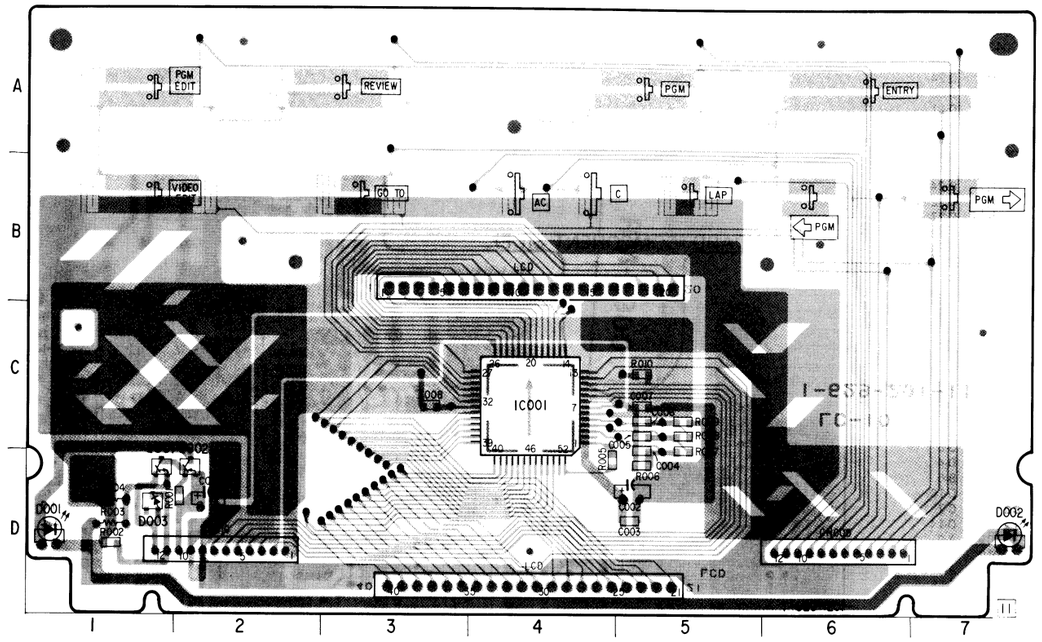


DI-18 BO





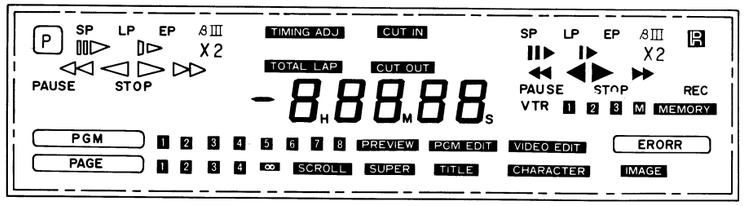
LC-10BOARD (CONDUCTOR SIDE)



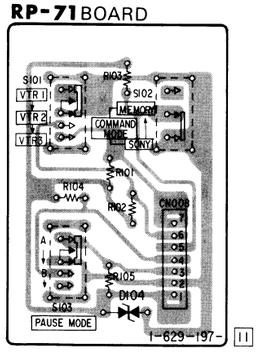
LC-10 BOARD

CN005	D-6
CN010	D-2
D001	D-1
D002	D-7
D003	D-1
IC001	C-4
Q001	D-1
Q002	D-2

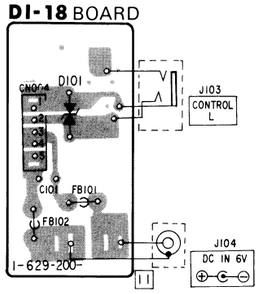
LCD



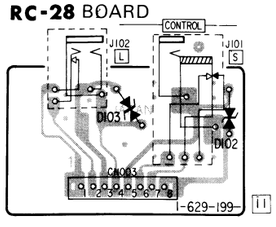
RP-71BOARD



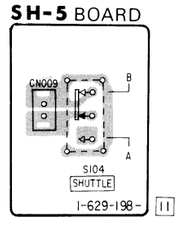
DI-18 BOARD



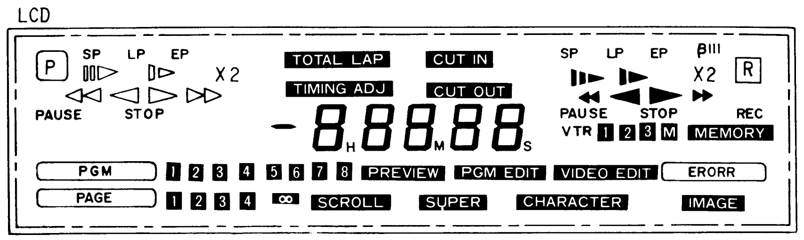
RC-28 BOARD



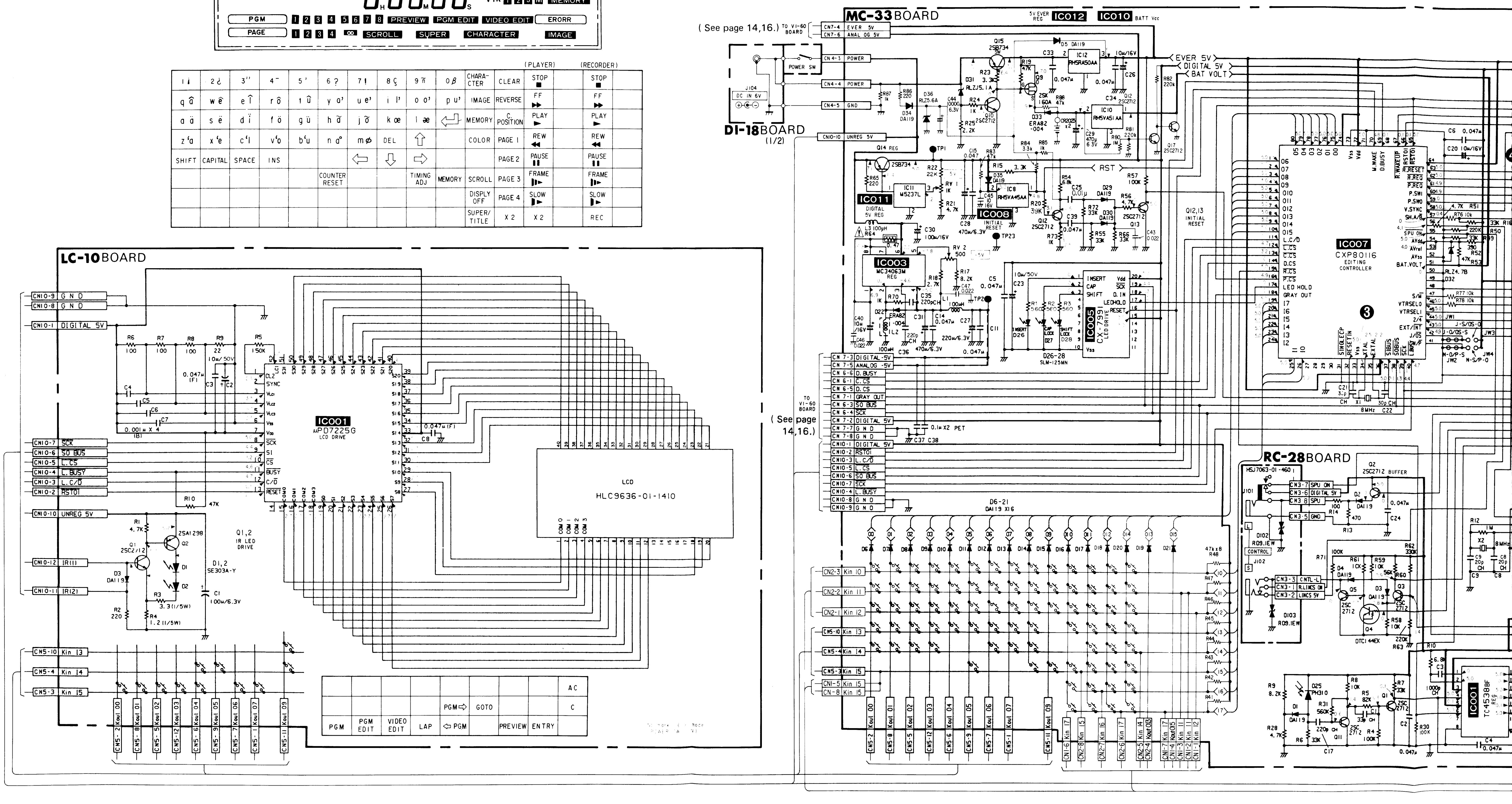
SH-5 BOARD



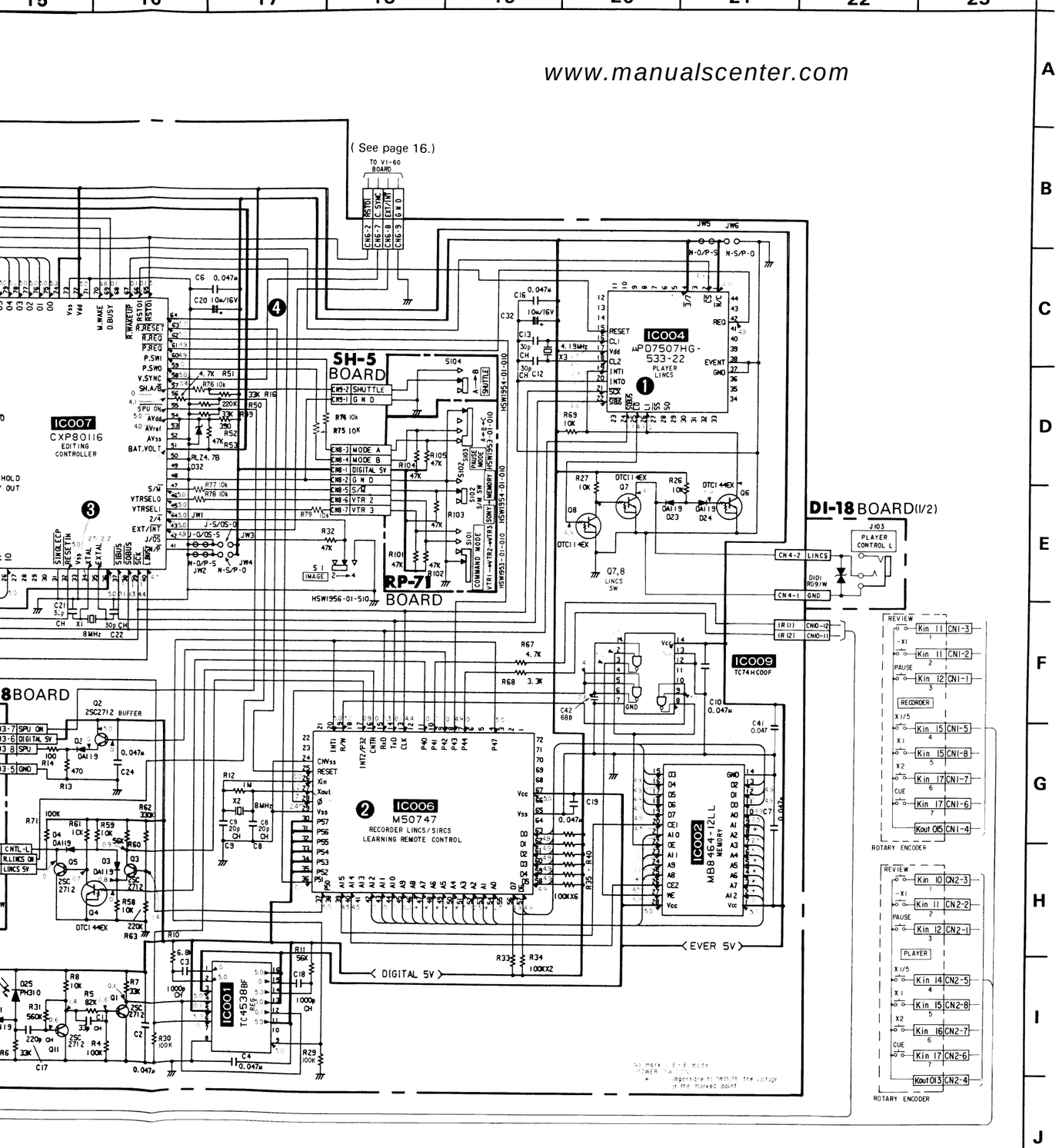
—Ref. No. MC-33 BOARD ; 2,000 series, LC-10 BOARD ; 3,000 series, RP-71 and SH-5 BOARDS ; 4,000 series, RC-28 and DI-18 BOARDS ; 5,000 series—



												(PLAYER)		(RECORDER)	
1 i	2 ¿	3 ''	4 ¯	5 '	6 ?	7 !	8 Ç	9 ñ	0 β	CHARA-CTER	CLEAR	STOP ■		STOP ■	
q â	w ê	e î	r ô	t û	y a'	u e'	i l'	o o'	p u'	IMAGE	REVERSE	FF ▶▶		FF ▶▶	
a ä	s ë	d ï	f ö	g ü	h ã	j õ	k œ	l æ	⏎	MEMORY	C. POSITION	PLAY ▶		PLAY ▶	
z ‘a	x ‘e	c ‘I	v ‘o	b ‘u	n a°	m ø	DEL	⇧		COLOR	PAGE 1	REW ◀◀		REW ◀◀	
SHIFT	CAPITAL	SPACE	INS			⇦	⇩	⇨			PAGE 2	PAUSE ❚❚		PAUSE ❚❚	
					COUNTER RESET			TIMING ADJ	MEMORY	SCROLL	PAGE 3	FRAME ❚▶		FRAME ❚▶	
										DISPLY OFF	PAGE 4	SLOW ❚▶		SLOW ❚▶	
										SUPER/ TITLE	X 2	X 2		REC	

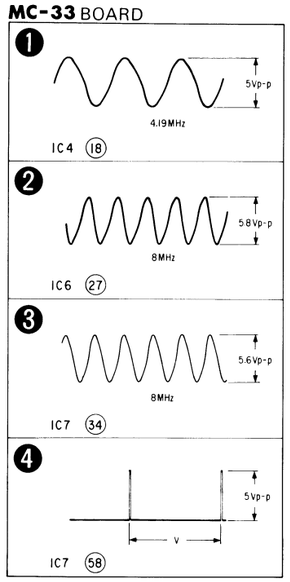

LC-10 BOARD
IC001 μPD7225G LCD DRIVE
LCD HLC9636-01-1410
Q1,2 IR LED DRIVE
D1,2 SE303A-Y
MC-33 BOARD
DI-18 BOARD (1/2)
(See page 14,16.) TO VI-60 BOARD
IC011 DIGITAL 5V REG
IC008 INITIAL RESET
IC003 MC34063M REG
IC005 CX-7991 LED DRIVE
IC007 CXP80116 EDITING CONTROLLER
IC012 5V EVER REG
IC010 BATT Vcc
Q12,13 INITIAL RESET
D26-28 SLM-125MN
D6-21 DA119 X16
RC-28 BOARD
Q2 2SC2712 BUFFER
IC001 TC4538BF

								AC
				PGM⇨	GOTO			C
PGM	PGM EDIT	VIDEO EDIT	LAP	⇦ PGM		PREVIEW	ENTRY	

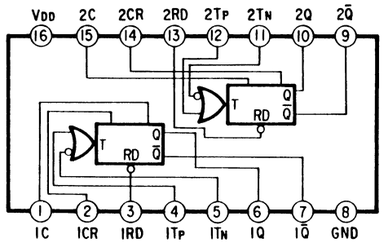


—29—

MC-33 BOARD



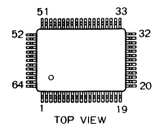
TC4538BF



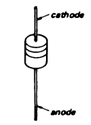
The matter of IC002
IC002 should be mounted on the component side for DIP type, and on the conductor side for FLAT type.

3-2. SEMICONDUCTORS

MB670493

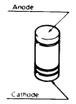


ERA82-004
RD9.1E-W



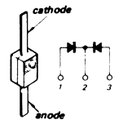
M5236L

RLZ-J4.7B
RLZ-J5.6A

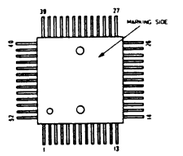


RH5VA45AB
RH5RA50A

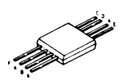
1T25



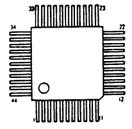
µPD7225G-00



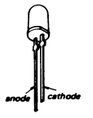
PH306C



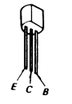
µPD7507HG-533-22



SE303AY



2SB1068-K



SLM-125DC

1. Cathode
2. Anode

2SC2669

—30—

RM-E300

Ref.No	Part No.	Description			Remark
IC006	8-759-631-59	IC M50747-275FP			
IC007	8-752-811-09	IC CXP80116-143Q			
IC008	8-759-981-43	IC RH5VA45AB			
IC009	8-759-204-94	IC TC74HC00F			
IC010	8-759-980-74	IC RH5VA51AB			
IC011	8-759-602-78	IC M5236L			
IC012	8-759-948-48	IC RH5RA50A			

JUMPER RESISTOR

Ref.No	Part No.	Description			Remark
JW001	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW002	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW005	1-216-295-00	METAL GLAZE	0	5%	1/10W

COIL

Ref.No	Part No.	Description	
L001	1-410-933-11	INDUCTOR	100UH
L002	1-410-933-11	INDUCTOR	100UH
L003	1-410-933-11	INDUCTOR	100UH

TRANSISTOR

Ref.No	Part No.	Description
Q001	8-729-271-22	TRANSISTOR 2SC2712-G
Q002	8-729-271-22	TRANSISTOR 2SC2712-G
Q003	8-729-271-22	TRANSISTOR 2SC2712-G
Q004	8-729-901-01	TRANSISTOR DTC144EK
Q005	8-729-271-22	TRANSISTOR 2SC2712-G
Q006	8-729-901-01	TRANSISTOR DTC144EK
Q007	8-729-900-53	TRANSISTOR DTC114EK
Q008	8-729-900-53	TRANSISTOR DTC114EK
Q009	8-729-116-05	TRANSISTOR 2SK160-K5
Q010	8-729-271-22	TRANSISTOR 2SC2712-G
Q011	8-729-271-22	TRANSISTOR 2SC2712-G
Q012	8-729-271-22	TRANSISTOR 2SC2712-G
Q013	8-729-271-22	TRANSISTOR 2SC2712-G
Q014	8-729-116-57	TRANSISTOR 2SB1068-K
Q015	8-729-116-57	TRANSISTOR 2SB1068-K
Q016	8-729-271-22	TRANSISTOR 2SC2712-G
Q017	8-729-271-22	TRANSISTOR 2SC2712-G

RESISTOR

Ref.No	Part No.	Description				Remark
R001	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R002	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R003	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R004	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R005	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R006	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R007	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R008	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R009	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R010	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R011	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R012	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R013	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R014	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R016	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R017	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R018	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R019	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R020	1-216-085-11	METAL GLAZE	33K	5%	1/10W	
R021	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R022	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R023	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R024	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R025	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R026	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R027	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R028	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R031	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R032	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R033	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R034	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R035	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R036	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R037	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R038	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R039	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R040	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R041	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R042	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R043	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R044	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R045	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R046	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R047	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R048	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R049	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R050	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R051	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R052	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R053	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R055	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R056	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R057	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R058	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R059	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R060	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R061	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R062	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R063	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R064	⚠1-249-377-11	CARBON	0.47	5%	1/4W	F
R065	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R066	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R067	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R068	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R069	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R070	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R071	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R072	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R073	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R074	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R075	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R076	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R077	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R078	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R079	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R080	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R081	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R082	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R083	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R084	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R085	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R086	1-247-743-11	CARBON	220	5%	1/2W	
R087	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R088	1-216-089-00	METAL GLAZE	47K	5%	1/10W	

VARIABLE RESISTOR

Ref.No	Part No.	Description
RV001	1-230-867-11	RES, ADJ, METAL GLAZE 1K
RV002	1-230-866-11	RES, ADJ, METAL GLAZE 470

CRYSTAL

Ref.No	Part No.	Description
X001	1-567-132-00	VIBLATOR, CERAMIC
X002	1-567-132-00	VIBLATOR, CERAMIC

When indicating parts by reference number, please include the board name.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark
X003	1-567-160-00	OSCILLATOR, CERAMIC	

****

*A-7061-514-A VI-60 BOARD, COMPLETE (Ref.No. 1,000 Series)

****

CAPACITOR

Ref.No	Part No.	Description			Remark
C001	1-123-875-11	ELECT	10MF	20%	50V
C002	1-123-875-11	ELECT	10MF	20%	50V
C003	1-123-875-11	ELECT	10MF	20%	50V
C004	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C005	1-123-875-11	ELECT	10MF	20%	50V
C006	1-123-875-11	ELECT	10MF	20%	50V
C007	1-123-875-11	ELECT	10MF	20%	50V
C008	1-123-875-11	ELECT	10MF	20%	50V
C009	1-123-875-11	ELECT	10MF	20%	50V
C010	1-123-875-11	ELECT	10MF	20%	50V
C011	1-123-875-11	ELECT	10MF	20%	50V
C012	1-123-875-11	ELECT	10MF	20%	50V
C013	1-124-925-11	ELECT	2.2MF	20%	50V
C014	1-123-875-11	ELECT	10MF	20%	50V
C015	1-123-875-11	ELECT	10MF	20%	50V
C016	1-123-875-11	ELECT	10MF	20%	50V
C017	1-124-443-00	ELECT	100MF	20%	6.3V
C018	1-123-875-11	ELECT	10MF	20%	50V
C019	1-123-875-11	ELECT	10MF	20%	50V
C020	1-124-443-00	ELECT	100MF	20%	6.3V
C021	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C022	1-123-875-11	ELECT	10MF	20%	50V
C023	1-123-875-11	ELECT	10MF	20%	50V
C024	1-123-875-11	ELECT	10MF	20%	50V
C025	1-124-499-11	ELECT	1MF	20%	50V
C026	1-123-875-11	ELECT	10MF	20%	50V
C027	1-123-875-11	ELECT	10MF	20%	50V
C028	1-123-875-11	ELECT	10MF	20%	50V
C029	1-123-875-11	ELECT	10MF	20%	50V
C030	1-123-875-11	ELECT	10MF	20%	50V
C031	1-123-875-11	ELECT	10MF	20%	50V
C032	1-123-875-11	ELECT	10MF	20%	50V
C033	1-124-902-00	ELECT	0.47MF	20%	50V
C034	1-124-499-11	ELECT	1MF	20%	50V
C035	1-124-499-11	ELECT	1MF	20%	50V
C036	1-123-875-11	ELECT	10MF	20%	50V
C037	1-135-095-00	TANTAL. CHIP	1.5MF	10%	10V
C038	1-124-446-11	ELECT	47MF	20%	10V
C039	1-123-875-11	ELECT	10MF	20%	50V
C040	1-123-875-11	ELECT	10MF	20%	50V
C041	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C042	1-124-499-11	ELECT	1MF	20%	50V
C043	1-123-875-11	ELECT	10MF	20%	50V
C044	1-123-875-11	ELECT	10MF	20%	50V
C045	1-124-446-11	ELECT	47MF	20%	10V
C046	1-124-925-11	ELECT	2.2MF	20%	50V
C047	1-123-875-11	ELECT	10MF	20%	50V
C048	1-123-875-11	ELECT	10MF	20%	50V
C049	1-124-902-00	ELECT	0.47MF	20%	50V
C050	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C051	1-123-875-11	ELECT	10MF	20%	50V
C052	1-123-875-11	ELECT	10MF	20%	50V
C053	1-123-875-11	ELECT	10MF	20%	50V
C054	1-123-875-11	ELECT	10MF	20%	50V
C055	1-123-875-11	ELECT	10MF	20%	50V
C056	1-124-902-00	ELECT	0.47MF	20%	50V
C057	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C058	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C059	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C060	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C061	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C062	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C063	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C064	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C065	1-163-127-00	CERAMIC CHIP	270PF	10%	50V
C066	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C067	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C068	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C069	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C070	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C071	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C072	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C073	1-130-468-00	MYLAR	560PF	10%	50V
C074	1-163-009-00	CERAMIC CHIP	0.001MF	10%	50V
C075	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C076	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C077	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C078	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C079	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C080	1-130-475-00	MYLAR	0.0022MF	10%	50V
C081	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C082	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C083	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C084	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C085	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C086	1-136-159-00	MYLAR	0.033MF	10%	50V
C087	1-136-159-00	MYLAR	0.033MF	10%	50V
C088	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C089	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C090	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C091	1-136-157-00	MYLAR	0.022MF	10%	50V
C091	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C092	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C094	1-130-471-00	MYLAR	0.001MF	10%	50V
C095	1-136-157-00	MYLAR	0.022MF	10%	50V
C096	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C097	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C098	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C099	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C100	1-123-875-11	ELECT	10MF	20%	50V
C101	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C102	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C103	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C104	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C105	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C106	1-163-129-00	CERAMIC CHIP	330PF	10%	50V
C107	1-136-153-00	MYLAR	0.01MF	10%	50V
C108	1-130-471-00	MYLAR	0.001MF	10%	50V
C109	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C111	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C112	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C113	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C114	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C115	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C116	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C117	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C118	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C120	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C121	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C122	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C123	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C124	1-163-035-00	CERAMIC CHIP	0.047MF		50V

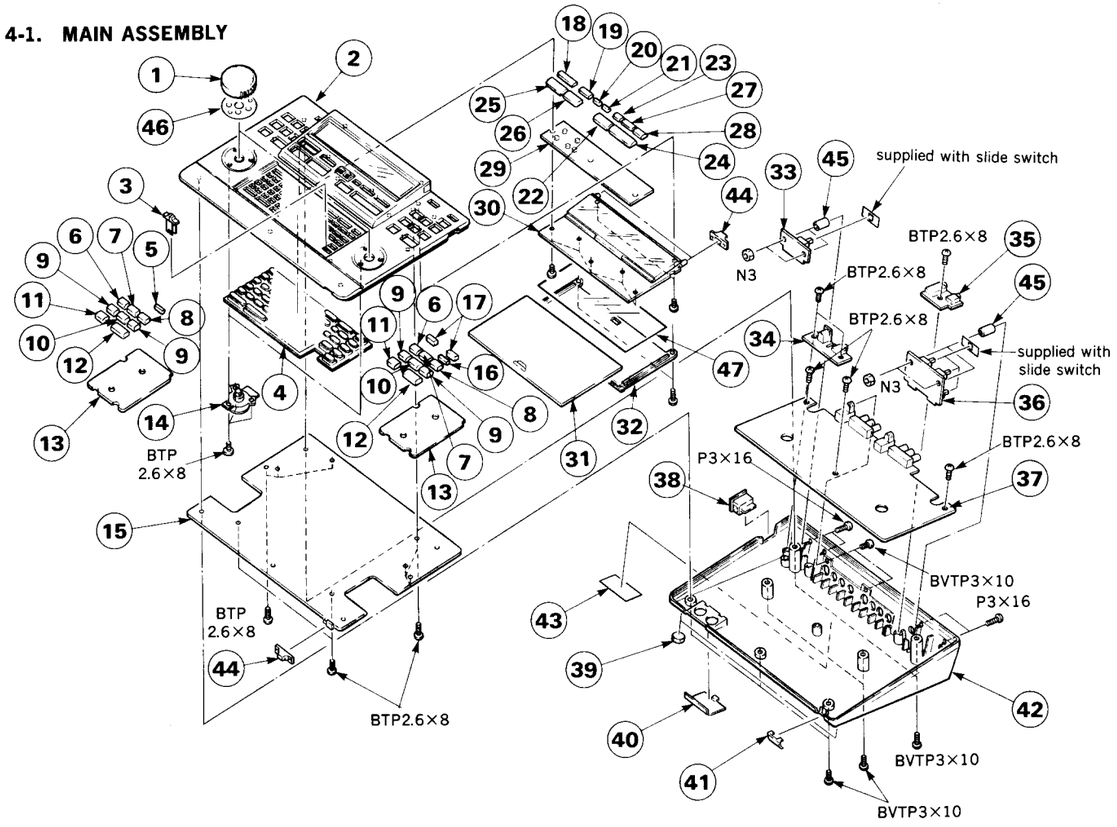
When indicating parts by reference number, please include the board name.

SECTION 4
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

4-1. MAIN ASSEMBLY



Ref.No	Part No.	Description	Remark
1	2-135-435-01	KNOB, SHUTTLE	
2	A-7090-937-A	CASE ASSY, UPPER	
3	2-131-233-01	KNOB	
4	2-131-249-01	RUBBER (TITLE), CONDUCTIVE	
5	2-131-237-01	KEY TOP (COUNTER RESET)	
6	2-135-434-01	KEY TOP (FRAME)	
7	2-135-433-01	KEY TOP (SLOW)	
8	2-135-432-01	KEY TOP (X2)	
9	2-135-431-01	KEY TOP (REW-FF)	
10	2-135-430-01	KEY TOP (PLAY)	
11	2-135-429-01	KEY TOP (STOP)	
12	2-135-428-01	KEY TOP (PAUSE)	
13	2-131-247-01	RUBBER (REC/PB), CONDUCTIVE	
14	1-466-081-11	ENCODER, ROTARY	
15	*A-7061-513-A	MC-33 BOARD, COMPLETE	
16	2-131-236-01	KEY TOP (RECORDING)	
17	2-131-238-01	KEY TOP (TA. MEMORY)	
18	2-135-427-01	KEY TOP (VIDEO EDIT)	
19	2-135-425-01	KEY TOP (GOTO)	
20	2-135-424-01	KEY TOP (AC)	
21	2-135-421-01	KEY TOP (C)	
22	2-135-419-01	KEY TOP (PGM)	
23	2-135-422-01	KEY TOP (LAP)	
24	2-135-420-01	KEY TOP (ENTRY)	
25	2-135-426-01	KEY TOP (PGM EDIT)	
26	2-135-423-01	KEY TOP (PREVIEW)	
27	2-135-417-01	KEY TOP (PGM DOWN)	
28	2-135-418-01	KEY TOP (PGM UP)	
29	2-131-248-01	RUBBER (EDITING), CONDUCTIVE	
30	*1-629-201-11	LC-10 BOARD	
31	2-131-250-01	COVER	
32	2-131-251-01	RETAINER, COVER	
33	*1-629-198-11	SH-5 BOARD	
34	*1-629-200-11	DI-18 BOARD	
35	*1-629-199-11	RC-28 BOARD	
36	*1-629-197-11	RP-71 BOARD	
37	*A-7061-514-A	VI-60 BOARD, COMPLETE	
38	1-571-843-11	SWITCH, SEESAW (POWER)	
39	2-131-235-01	SPACER (RUBBER FOOT)	
40	2-131-244-01	LID, BATTERY CASE	
41	2-131-241-01	FILTER (RAY CATCHER)	
42	2-131-252-11	COVER, LOWER	
43	2-131-227-01	LABEL, MODEL NUMBER	
44	2-131-234-01	FILTER (LED)	
45	3-654-603-01	SPACER	
46	2-135-447-01	SPACER, SHUTTLE DIAL	
47	*2-135-448-01	SPACER	

MC-33

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description			Remark
	*A-7061-513-A	MC-33 BOARD, COMPLETE (Ref. No. 2,000 Series)			
		**********			
	1-550-104-11	HOLDER, BATTERY			
	1-550-104-11	HOLDER, BATTERY			
		CAPACITOR			
C001	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C002	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C003	1-163-141-00	CERAMIC CHIP	0.001MF	5% 50V	
C004	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C005	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C006	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C007	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C008	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C009	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C010	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C011	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C012	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C013	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C014	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C015	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C016	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C017	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C018	1-163-141-00	CERAMIC CHIP	0.001MF	5% 50V	
C019	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C020	1-123-875-11	ELECT	10MF	20% 50V	
C021	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C022	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C023	1-123-875-11	ELECT	10MF	20% 50V	
C024	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C025	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C026	1-126-638-11	ELECT	470MF	20% 6.3V	
C027	1-126-176-11	ELECT	220MF	20% 6.3V	
C028	1-124-893-11	ELECT	2200MF	20% 6.3V	
C029	1-123-356-00	ELECT	10MF	20% 16V	
C030	1-126-101-11	ELECT	100MF	20% 16V	
C031	1-124-518-11	ELECT	470MF	20% 6.3V	
C032	1-123-875-11	ELECT	10MF	20% 50V	
C033	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C034	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C035	1-163-125-00	CERAMIC CHIP	220PF	5% 50V	
C036	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	
C037	1-136-165-00	MYLAR	0.1MF	10% 50V	
C038	1-136-165-00	MYLAR	0.1MF	10% 50V	
C039	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C040	1-123-875-11	ELECT	10MF	20% 50V	
C041	1-163-035-00	CERAMIC CHIP	0.047MF	50V	
C042	1-163-113-00	CERAMIC CHIP	68PF	5% 50V	
C043	1-163-033-00	CERAMIC CHIP	0.022MF	50V	
C044	1-126-651-11	ELECT	10000MF	20% 6.3V	
C045	1-123-875-11	ELECT	10MF	20% 50V	
C046	1-163-033-00	CERAMIC CHIP	0.022MF	50V	
C047	1-163-033-00	CERAMIC CHIP	0.022MF	50V	

Ref.No	Part No.	Description	Remark
		CONNECTOR	
CN001	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
CN002	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
CN003	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
CN004	*1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P	
CN005	*1-564-714-11	PIN, CONNECTOR (SMALL TYPE) 12P	
CN006	*1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P	
CN007	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
CN008	*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
CN009	*1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P	
CN010	*1-564-714-21	PIN, CONNECTOR (SMALL TYPE) 12P	
		DIODE	
D001	8-719-100-03	DIODE 1S2835	
D002	8-719-100-03	DIODE 1S2835	
D003	8-719-100-03	DIODE 1S2835	
D004	8-719-100-03	DIODE 1S2835	
D005	8-719-100-03	DIODE 1S2835	
D006	8-719-100-03	DIODE 1S2835	
D007	8-719-100-03	DIODE 1S2835	
D008	8-719-100-03	DIODE 1S2835	
D009	8-719-100-03	DIODE 1S2835	
D010	8-719-100-03	DIODE 1S2835	
D011	8-719-100-03	DIODE 1S2835	
D012	8-719-100-03	DIODE 1S2835	
D013	8-719-100-03	DIODE 1S2835	
D014	8-719-100-03	DIODE 1S2835	
D015	8-719-100-03	DIODE 1S2835	
D016	8-719-100-03	DIODE 1S2835	
D017	8-719-100-03	DIODE 1S2835	
D018	8-719-100-03	DIODE 1S2835	
D019	8-719-100-03	DIODE 1S2835	
D020	8-719-100-03	DIODE 1S2835	
D021	8-719-100-03	DIODE 1S2835	
D022	8-719-913-44	DIODE ERA82-004	
D023	8-719-100-03	DIODE 1S2835	
D024	8-719-100-03	DIODE 1S2835	
D025	8-719-107-86	DIODE PH306C	
D026	8-719-970-20	DIODE SLM-125DC	
D027	8-719-970-20	DIODE SLM-125DC	
D028	8-719-970-20	DIODE SLM-125DC	
D029	8-719-100-03	DIODE 1S2835	
D030	8-719-100-03	DIODE 1S2835	
D031	8-719-972-48	DIODE RLZ-J5.1A	
D032	8-719-971-89	DIODE RLZ-J4.7B	
D034	8-719-100-03	DIODE 1S2835	
D035	8-719-100-03	DIODE 1S2835	
D036	8-719-972-57	DIODE RLZ-J5.6A	
		IC	
IC001	8-759-200-90	IC TC4538BF	
IC002	8-759-945-09	IC MB8464-12LLPF	
IC003	8-759-013-25	IC MC34063M	
IC004	8-759-143-22	IC UPD7507HG-533-22	
IC005	8-757-991-00	IC CX-7991	

Ref.No	Part No.	Description			Remark
C125	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C126	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C127	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C128	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C129	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C130	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C131	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C132	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C133	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C134	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C135	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C136	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C137	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C138	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C139	1-164-153-11	MYLAR	0.01MF	10%	50V
C140	1-130-471-00	MYLAR	0.001MF	10%	50V
C141	1-163-610-91	CERAMIC CHIP	150PF	5%	50V
C142	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C143	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C144	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C145	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C146	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C147	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C148	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C149	1-163-478-91	CERAMIC CHIP	33PF	5%	50V
C150	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C151	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C152	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C153	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C154	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C155	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C156	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C157	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C159	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C160	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C161	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C162	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C163	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C164	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C165	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C166	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C167	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C168	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C169	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C171	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C174	1-163-610-91	CERAMIC CHIP	150PF	5%	50V
C175	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C176	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C177	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C178	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C179	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C181	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C182	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C183	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C196	1-163-117-00	CERAMIC CHIP	100PF	5%	50V

CONNECTOR

CNJ001	1-566-980-21	CONNECTOR, ROUND TYPE 4P (PLAYER INPUT S VIDEO)
CNJ002	1-566-980-21	CONNECTOR, ROUND TYPE 4P (RECODER OUTPUT S VIDEO)
CNJ003	1-568-216-11	JACK, PIN 3P (PLAYER INPUT V/L/R)
CNJ004	1-568-216-11	JACK, PIN 3P (RECORDER OUTPUT V/L/R)

VARIABLE CAPACITOR

CV001	1-141-311-11	CAP, VAR, TRIMMER (CHIP)
CV002	1-141-311-11	CAP, VAR, TRIMMER (CHIP)
CV003	1-141-311-11	CAP, VAR, TRIMMER (CHIP)

DIODE

D001	8-719-100-03	DIODE 1S2835
D002	8-719-100-03	DIODE 1S2835
D003	8-719-100-03	DIODE 1S2835
D004	8-719-100-03	DIODE 1S2835
D005	8-719-100-03	DIODE 1S2835
D006	8-719-100-03	DIODE 1S2835
D007	8-712-500-00	DIODE 1T25
D008	8-719-100-03	DIODE 1S2835
D009	8-719-100-03	DIODE 1S2835
D010	8-719-100-03	DIODE 1S2835
D011	8-719-100-03	DIODE 1S2835
D012	8-719-100-03	DIODE 1S2835
D013	8-719-100-03	DIODE 1S2835
D014	8-719-100-03	DIODE 1S2835
D016	8-719-100-03	DIODE 1S2835
D018	8-719-100-03	DIODE 1S2835
D019	8-719-100-03	DIODE 1S2835

IC

IC201	8-759-200-81	IC TC4053BF
IC202	8-759-200-81	IC TC4053BF
IC203	8-759-105-49	IC UPC319G2
IC204	8-759-100-97	IC UPC339G2
IC205	8-759-618-48	IC M51848L
IC206	8-759-204-97	IC TC74HCU04F
IC207	8-757-930-11	IC CX-7930A
IC208	8-759-204-94	IC TC74HC00F
IC209	8-759-100-96	IC UPC4558G2
IC210	8-759-206-28	IC TC74HC123F
IC211	8-759-200-81	IC TC4053BF
IC212	8-759-908-17	IC TL082CPS
IC213	8-759-030-34	IC MC1496MR
IC214	8-759-030-34	IC MC1496MR
IC215	8-759-631-08	IC M51279FP
IC216	8-752-033-58	IC V7040
IC217	8-759-030-34	IC MC1496MR
IC501	8-752-326-24	IC CXK58257M-12L
IC502	8-759-972-39	IC MB670493
IC503	8-759-205-06	IC TC74HC74F
IC504	8-759-631-24	IC M50455-105FP
IC505	8-759-205-12	IC TC74HC157F
IC506	8-759-204-95	IC TC74HC02F
IC507	8-759-204-96	IC TC74HC04F
IC508	8-759-100-96	IC UPC4558G2
IC509	8-759-206-28	IC TC74HC123F

JUMPER RESISTOR

JW001	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW004	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW005	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW007	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW010	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW012	1-216-295-00	METAL GLAZE	0	5%	1/10W
JW013	1-216-295-00	METAL GLAZE	0	5%	1/10W

COIL

L001	1-410-324-11	INDUCTOR	4.7UH
L002	1-410-521-11	INDUCTOR	100UH
L003	1-410-324-11	INDUCTOR	4.7UH
L004	1-410-517-11	INDUCTOR	47UH
L005	1-408-414-00	INDUCTOR	27UH

When indicating parts by reference number, please include the board name.

VI-60

Ref.No	Part No.	Description	Remark
L006	1-410-517-11	INDUCTOR 47UH	
L007	1-410-324-11	INDUCTOR 4.7UH	
L008	1-410-521-11	INDUCTOR 100UH	
L009	1-410-502-11	INDUCTOR 2.7UH	
L010	1-408-414-00	INDUCTOR 27UH	
L011	1-408-779-31	INDUCTOR CHIP 15UH	
		TRANSISTOR	
Q001	8-729-271-22	TRANSISTOR 2SC2712-G	
Q002	8-729-271-22	TRANSISTOR 2SC2712-G	
Q003	8-729-271-22	TRANSISTOR 2SC2712-G	
Q004	8-729-271-22	TRANSISTOR 2SC2712-G	
Q005	8-729-271-22	TRANSISTOR 2SC2712-G	
Q006	8-729-271-22	TRANSISTOR 2SC2712-G	
Q007	8-729-271-22	TRANSISTOR 2SC2712-G	
Q008	8-729-271-22	TRANSISTOR 2SC2712-G	
Q009	8-729-216-22	TRANSISTOR 2SA1162	
Q010	8-729-216-22	TRANSISTOR 2SA1162	
Q011	8-729-271-22	TRANSISTOR 2SC2712-G	
Q012	8-729-271-22	TRANSISTOR 2SC2712-G	
Q013	8-729-271-22	TRANSISTOR 2SC2712-G	
Q014	8-729-271-22	TRANSISTOR 2SC2712-G	
Q015	8-729-216-22	TRANSISTOR 2SA1162	
Q016	8-729-216-22	TRANSISTOR 2SA1162	
Q017	8-729-271-22	TRANSISTOR 2SC2712-G	
Q018	8-729-216-22	TRANSISTOR 2SA1162	
Q019	8-729-271-22	TRANSISTOR 2SC2712-G	
Q020	8-729-271-22	TRANSISTOR 2SC2712-G	
Q021	8-729-901-01	TRANSISTOR DTC144EK	
Q022	8-729-271-22	TRANSISTOR 2SC2712-G	
Q023	8-729-271-22	TRANSISTOR 2SC2712-G	
Q024	8-729-271-22	TRANSISTOR 2SC2712-G	
Q025	8-729-271-22	TRANSISTOR 2SC2712-G	
Q026	8-729-271-22	TRANSISTOR 2SC2712-G	
Q027	8-729-271-22	TRANSISTOR 2SC2712-G	
Q028	8-729-271-22	TRANSISTOR 2SC2712-G	
Q029	8-729-216-22	TRANSISTOR 2SA1162	
Q030	8-729-271-22	TRANSISTOR 2SC2712-G	
Q031	8-729-901-01	TRANSISTOR DTC144EK	
Q032	8-729-266-93	TRANSISTOR 2SC2669	
Q033	8-729-271-22	TRANSISTOR 2SC2712-G	
Q034	8-729-216-22	TRANSISTOR 2SA1162	
Q035	8-729-216-22	TRANSISTOR 2SA1162	
Q036	8-729-900-98	TRANSISTOR DTC143TK	
Q037	8-729-216-22	TRANSISTOR 2SA1162	
Q038	8-729-271-22	TRANSISTOR 2SC2712-G	
Q039	8-729-271-22	TRANSISTOR 2SC2712-G	
Q040	8-729-271-22	TRANSISTOR 2SC2712-G	
Q041	8-729-216-22	TRANSISTOR 2SA1162	
Q042	8-729-271-22	TRANSISTOR 2SC2712-G	
Q043	8-729-216-22	TRANSISTOR 2SA1162	
Q044	8-729-271-22	TRANSISTOR 2SC2712-G	
Q045	8-729-271-22	TRANSISTOR 2SC2712-G	
Q046	8-729-271-22	TRANSISTOR 2SC2712-G	
Q047	8-729-271-22	TRANSISTOR 2SC2712-G	
Q048	8-729-216-22	TRANSISTOR 2SA1162	
Q049	8-729-901-06	TRANSISTOR DTA144EK	
Q050	8-729-901-01	TRANSISTOR DTC144EK	
Q051	8-729-271-22	TRANSISTOR 2SC2712-G	
Q052	8-729-271-22	TRANSISTOR 2SC2712-G	
Q053	8-729-116-05	TRANSISTOR 2SK160-K5	
Q054	8-729-117-83	TRANSISTOR 2SK425-X13	
Q055	8-729-271-22	TRANSISTOR 2SC2712-G	

Ref.No	Part No.	Description			Remark
		RESISTOR			
R003	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R004	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R005	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R006	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R008	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R009	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R010	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R011	1-216-041-00	METAL GLAZE	470	5%	1/10W
R012	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R013	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R014	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R015	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R016	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R017	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R018	1-216-041-00	METAL GLAZE	470	5%	1/10W
R019	1-216-041-00	METAL GLAZE	470	5%	1/10W
R020	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R021	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R022	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R023	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R024	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R025	1-216-039-00	METAL GLAZE	390	5%	1/10W
R026	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R027	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R028	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R029	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R030	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R034	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R035	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R036	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R037	1-216-035-00	METAL GLAZE	270	5%	1/10W
R039	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R040	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R041	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R042	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R046	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R048	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R049	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R050	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R052	1-216-025-00	METAL GLAZE	100	5%	1/10W
R053	1-216-025-00	METAL GLAZE	100	5%	1/10W
R054	1-216-022-00	METAL GLAZE	75	5%	1/10W
R055	1-216-022-00	METAL GLAZE	75	5%	1/10W
R057	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R058	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R059	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R060	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R061	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R062	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R063	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R064	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R065	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R066	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R067	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R068	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R069	1-216-025-00	METAL GLAZE	100	5%	1/10W
R070	1-216-022-00	METAL GLAZE	75	5%	1/10W
R072	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R073	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R074	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R075	1-216-041-00	METAL GLAZE	470	5%	1/10W
R076	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R077	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R078	1-216-025-00	METAL GLAZE	100	5%	1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description			Remark
R079	1-216-025-00	METAL GLAZE	100	5%	1/10W
R080	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R081	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R082	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R083	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R084	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R085	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R086	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R087	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R088	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R089	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R090	1-216-037-00	METAL GLAZE	330	5%	1/10W
R091	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R092	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R093	1-216-025-00	METAL GLAZE	100	5%	1/10W
R094	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R095	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R096	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R097	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R098	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R099	1-216-029-00	METAL GLAZE	150	5%	1/10W
R100	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R101	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R102	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R103	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R104	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R105	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R106	1-216-048-00	METAL GLAZE	910	5%	1/10W
R107	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R108	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R109	1-216-041-00	METAL GLAZE	470	5%	1/10W
R110	1-216-041-00	METAL GLAZE	470	5%	1/10W
R111	1-216-041-00	METAL GLAZE	470	5%	1/10W
R112	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R113	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R114	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R115	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R118	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R119	1-216-041-00	METAL GLAZE	470	5%	1/10W
R120	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R122	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R123	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R124	1-216-309-00	METAL GLAZE	5.6	5%	1/10W
R125	1-216-309-00	METAL GLAZE	5.6	5%	1/10W
R126	1-216-022-00	METAL GLAZE	75	5%	1/10W
R127	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R128	1-216-039-00	METAL GLAZE	390	5%	1/10W
R129	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R130	1-216-025-00	METAL GLAZE	100	5%	1/10W
R131	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R132	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R133	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R134	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R135	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R136	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R139	1-216-041-00	METAL GLAZE	470	5%	1/10W
R140	1-216-039-00	METAL GLAZE	390	5%	1/10W
R141	1-216-039-00	METAL GLAZE	390	5%	1/10W
R142	1-216-041-00	METAL GLAZE	470	5%	1/10W
R143	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R144	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R145	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R146	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R148	1-216-039-00	METAL GLAZE	390	5%	1/10W
R149	1-216-049-00	METAL GLAZE	1K	5%	1/10W

Ref.No	Part No.	Description			Remark
R150	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R151	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R152	1-216-295-00	METAL GLAZE	0	5%	1/10W
R153	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R154	1-216-029-00	METAL GLAZE	150	5%	1/10W
R155	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R156	1-216-041-00	METAL GLAZE	470	5%	1/10W
R157	1-216-029-00	METAL GLAZE	150	5%	1/10W
R158	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R159	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R160	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R161	1-216-039-00	METAL GLAZE	390	5%	1/10W
R162	1-216-039-00	METAL GLAZE	390	5%	1/10W
R163	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R164	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R165	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R166	1-216-041-00	METAL GLAZE	470	5%	1/10W
R167	1-216-043-00	METAL GLAZE	560	5%	1/10W
R168	1-216-043-00	METAL GLAZE	560	5%	1/10W
R169	1-216-043-00	METAL GLAZE	560	5%	1/10W
R170	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R171	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R172	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R173	1-216-022-00	METAL GLAZE	75	5%	1/10W
R174	1-216-309-00	METAL GLAZE	5.6	5%	1/10W
R175	1-216-309-00	METAL GLAZE	5.6	5%	1/10W
R176	1-216-037-00	METAL GLAZE	330	5%	1/10W
R177	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R178	1-216-041-00	METAL GLAZE	470	5%	1/10W
R179	1-216-048-00	METAL GLAZE	910	5%	1/10W
R180	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R181	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R182	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R183	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R184	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R185	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R186	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R187	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R188	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R189	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R190	1-216-029-00	METAL GLAZE	150	5%	1/10W
R192	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R193	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R194	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R196	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R197	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R198	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R199	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R200	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R201	1-216-021-00	METAL GLAZE	68	5%	1/10W
R202	1-216-029-00	METAL GLAZE	150	5%	1/10W
R203	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R204	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R205	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R206	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R207	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R209	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R210	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R211	1-216-039-00	METAL GLAZE	390	5%	1/10W
R212	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R213	1-216-047-00	METAL GLAZE	820	5%	1/10W
R214	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R215	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R216	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R217	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W

When indicating parts by reference number, please include the board name.

VI-60 | LC-10 | RP-71 | SH-5 | RC-28 | DI-18

Ref.No	Part No.	Description			Remark
R218	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R219	1-216-041-00	METAL GLAZE	470	5%	1/10W
R220	1-216-041-00	METAL GLAZE	470	5%	1/10W
R221	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R222	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R223	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R224	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R225	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R226	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R227	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R228	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
		VARIABLE RESISTOR			
RV001	1-230-866-11	RES, ADJ, METAL GLAZE 470			
RV002	1-230-866-11	RES, ADJ, METAL GLAZE 470			
RV003	1-230-866-11	RES, ADJ, METAL GLAZE 470			
RV004	1-230-866-11	RES, ADJ, METAL GLAZE 470			
RV005	1-230-868-11	RES, ADJ, METAL GLAZE 2.2K			
RV006	1-230-867-11	RES, ADJ, METAL GLAZE 1K			
RV007	1-230-867-11	RES, ADJ, METAL GLAZE 1K			
RV008	1-230-871-11	RES, ADJ, METAL GLAZE 22K			
RV010	1-230-873-11	RES, ADJ, METAL GLAZE 47K			
RV011	1-230-867-11	RES, ADJ, METAL GLAZE 1K			
		CRYSTAL			
X001	1-527-723-00	VIBRATOR, CRYSTAL			
X002	1-567-344-21	VIBRATOR, CRYSTAL (VCO)			

****

	*1-629-201-11	LC-10 BOARD	(Ref. No. 3,000 Series)
		*********	
	1-808-655-11	DISPLAY PANEL, LIQUID CRYSTAL	
	2-131-243-01	SPACER	
		CAPACITOR	

C001	1-124-443-00	ELECT	100MF	20%	6.3V
C002	1-123-875-11	ELECT	10MF	20%	50V
C003	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C004	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C005	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C006	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C007	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C008	1-163-035-00	CERAMIC CHIP	0.047MF		50V
		DIODE			
D001	8-719-107-82	DIODE SE303AY			
D002	8-719-107-82	DIODE SE303AY			
D003	8-719-100-03	DIODE 1S2835			
		IC			
IC001	8-759-105-68	IC UPD7225G-00			
		TRANSISTOR			
Q001	8-729-271-22	TRANSISTOR 2SC2712-G			
Q002	8-729-216-22	TRANSISTOR 2SA1162			
		RESISTOR			
R001	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R002	1-216-033-00	METAL GLAZE	220	5%	1/10W
R003	1-249-387-11	CARBON MELF	3.3	5%	1/5W
R004	1-249-002-00	CARBON MELF	1.2	5%	1/5W
R005	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R006	1-216-025-00	METAL GLAZE	100	5%	1/10W
R007	1-216-025-00	METAL GLAZE	100	5%	1/10W
R008	1-216-025-00	METAL GLAZE	100	5%	1/10W
R009	1-216-009-00	METAL GLAZE	22	5%	1/10W
R010	1-216-089-00	METAL GLAZE	47K	5%	1/10W

****

	*1-629-197-11	RP-71 BOARD	(Ref. No. 4,000 Series)
		*********	
		DIODE	
D104	8-719-108-12	DIODE RD9.1E-W	
		RESISTOR	

R101	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R102	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R103	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R104	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R105	1-216-089-00	METAL GLAZE	47K	5%	1/10W
		SWITCH			
S101	1-571-841-11	SWITCH, SLIDE (VTR 1/2/3)			
S102	1-571-842-11	SWITCH, SLIDE (COMMAND MODE)			
S103	1-571-841-11	SWITCH, SLIDE (PAUSE MODE)			

****

	*1-629-198-11	SH-5 BOARD	(Ref. No. 4,000 Series)
		*********	
		SWITCH	
S104	1-571-842-11	SWITCH, SLIDE (SHUTTLE)	

****

	*1-629-199-11	RC-28 BOARD	(Ref. No. 5,000 Series)
		*********	
		DIODE	
D102	8-719-108-12	DIODE RD9.1E-W	
D103	8-719-108-12	DIODE RD9.1E-W	
		JACK	
J101	1-507-899-41	JACK (SMALL TYPE) (CONTROL S)	
J102	1-568-215-11	JACK, SUPER SMALL 1P (CONTROL L)	

****

	*1-629-200-11	DI-18 BOARD	(Ref. No. 5,000 Series)
		*********	
		CAPACITOR	
C101	1-101-005-00	CERAMIC	0.022MF 50V
		DIODE	
D101	8-719-108-12	DIODE RD9.1E-W	
		COIL	
LF101	1-421-764-11	COIL	
		JACK	
J103	1-568-215-11	JACK, SUPER SMALL 1P (CONTROL L)	
J104	1-507-563-00	DC JACK (DC IN 6V)	

When indicating parts by reference number, please include the board name.

Part No.	Description	Remark
	MISCELLANEOUS	
	**********	
1-466-081-11	ENCODER, ROTARY	
1-571-843-11	SWITCH, SEESAW (POWER)	
	ACCESSORY & PACKING MATERIAL	
	**********	
* 2-131-254-21	INDIVIDUAL CARTON	
1-574-026-11	CORD, CONNECTION (VK-810)	
1-574-316-11	CORD, CONNCTION	
1-574-496-11	CORD, CONNECTION	
2-135-416-01	CUSHION (C)	
2-135-436-01	CUSHION (LEFT)	
2-135-437-01	CUSHION (RIGHT)	
2-135-453-01	SPACER	
2-273-319-01	SHEET, PROTECTION	
3-786-946-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH)	
3-786-946-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN)	

Part No.	Description	Remark
HARDWARE LIST		
7-682-552-09	SCREW +P 3X16	
7-684-023-04	N3, TYPE2	
7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-3	
7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	

When indicating parts by reference number, please include the board name.

SECTION 6
ELECTRICAL ADJUSTMENTS

During the Adjustment, See the Parts location diagram relevant to the adjustment on page 46.

The following measuring instruments are needed in electrical adjustment.

[Using instruments]

1) Monitor TV
2) Oscilloscope dual-trace, Band width more than 10MHz with delay mode (Use a probe of 10 : 1, unless otherwise specified.)
3) Frequency counter
4) PAL pattern generator with video output terminal and Y/C separate output terminal
5) Digital voltmeter
6) PAL vectorscope

[Connection]

Unless otherwise specified, connect the measuring instruments as shown in the following diagram.

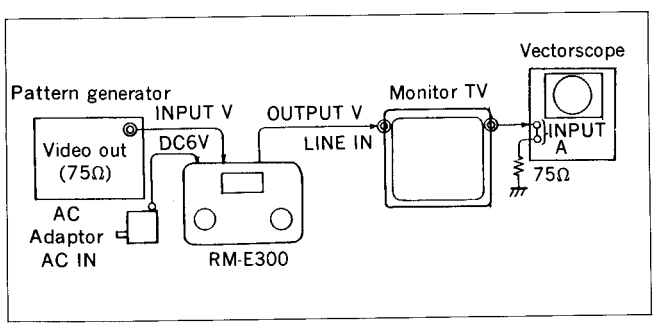


Fig. 6-1.

[Color ber signal]

Video signals output by a pattern generator are used as adjustment signals when making the electrical adjustments, and these Video output signals should be within the required Standard. Connect an oscilloscope CNJ3 (INPUT V) on the VI-60 board. Check that the amplitudes of Video signal SYNC signals, picture portions, and burst signals are flat at approximatery 0.3, 0.7, and 0.3V, respectively, and that the level ratio of burst signal and "red" signal is 0.30 : 0.66. Fig. 6-2. shows Video signals (color bars) used in making the electrical adjustment.

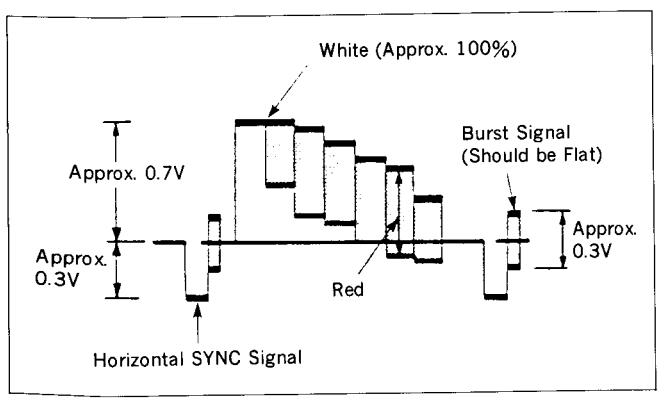


Fig. 6-2.

[Specified input/output level and impedance]

Video input	Phono jack (1) 1Vp-p, 75ohms, unbalanced, sync negative
S Video input	4-pin mini-DIN (1) Luminance signal : 1Vp-p, 75ohms, unbalanced, sync negative Chrominance signal : 0.286Vp-p, 75ohms, unbelanced
Video output	Phono jack (1) 1Vp-p, 75ohms, unbalanced, sync negative
S Video output	4-pin mini-DIN (1) Luminance signal : 1Vp-p, 75ohms, unbalanced, sync negative Chrominance signal : 0.286Vp-p, 75ohms, unbelanced

[Adjusting mode]

Unless otherwise specified, E-E mode.

6-1. POWER SUPPLY SECTION ADJUSTMENT (MC-33 BOARD)

Adjustment and confirmation are made with the power supply ON.

Signal	Arbitrary
Measuring instrument	Digital voltmeter
Ever 5V check	
Measurement point	Pin ③ of IC12
Specified value	5.0±0.2Vdc
Digital 5V adjustment	
Measurement point	TP 1 (Collector of Q 14)
Adjusting element	RV 1
Specified value	5.0±0.2Vdc
Digital−5V adjustment	
Measurement point	TP 2 (Pin ③ of CN 7)
Adjusting element	RV 2
Specified value	−5.0±0.2Vdc

[Checking method]

1) Confirm that the voltage of the pin ③ of IC 12 is 5.0±0.2Vdc.

[Adjusting method]

1) Adjust with RV 1 so that the voltage at the TP 1 is 5.0±0.2Vdc.
2) Adjust with RV 2 so that the voltage at the TP 2 is −5.0±0.2Vdc.

6-2. VIDEO SECTION ADJUSTMENT

6-2-1. 4fsc Adjustment (VI-60 Board)

Signal	None
Measurement point	TP 3 (Collector of Q 26)
Measuring instrument	Frequency counter
Adjusting element	CV 3
Specified value	4433619±10Hz

[Adjusting method]

1) Adjust to 4433619±10Hz with CV 3.

6-2-2. CLK Adjustment (VI-60 Board)

Signal	None
Measurement point	Pin㉔ of IC 207
Measuring instrument	Oscilloscope
Adjusting element	CV 1
Specified value	2.5±0.3Vdc

[Adjusting method]

1) Adjust to 2.5± 0.3 Vdc with CV1.

6-2-3. PLL Adjustment (VI-60 Board)

Signal	Color bar
Measurement point	TP 7 (Pin ① of IC 209)
Measuring instrument	Oscilloscope
Adjusting element	CV 2
Specified value	2.5±0.2Vdc

[Adjusting method]

1) Adjust to 2.5±0.2Vdc with CV2.

6-2-4. SYNC Generator Phase Adjustment (VI-60 Board)

Signal	Color bar
Measurement point	CH 1 : CNJ 3 VIDEO IN CH 2 : TP 5 (Pin ④ of IC 207)
Measuring instrument	Oscilloscope
Adjusting element	RV 8
Specified value	t=0±50nsec.

[Adjusting method]

1) Adjust to 0±50 nsec. with RV8.

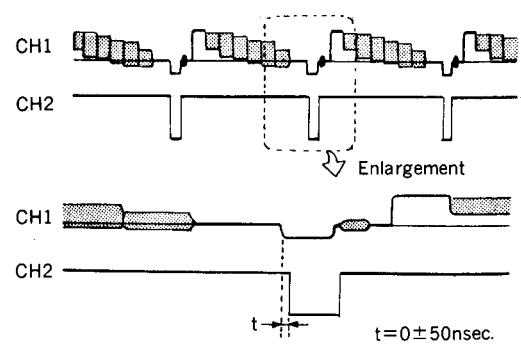


Fig. 6-3.

6-2-5. Character Generator Clock Timing Adjustment (VI-60 Board)

Signal	Color bar
Measurement point	CH 1 : TP 12 (Pin ③ of IC 503) CH 2 : TP 13 (Pin ⑬ of IC 509)
Measuring instrument	Oscilloscope
Adjusting element	RV 11
Specified value	t=0±10nsec.

[Adjusting method]

1) Adjust to 0±10nsec. with RV11.

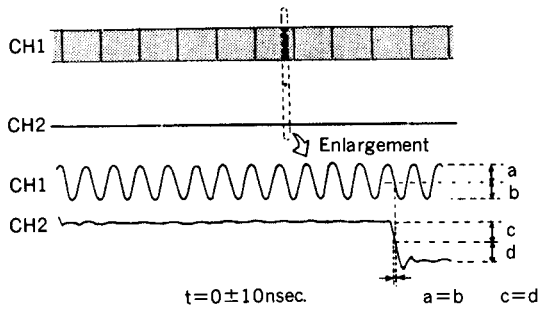


Fig. 6-4.

6-2-6. TINT Adjustment (VI-60 Board)

Signal	Color bar
Measurement point	TP 6 (Pin ① of IC 212)
Measuring instrument	Oscilloscope
Adjusting element	RV 10
Specified value	Less than −200mVdc

[Adjusting method]

1) Adjust to less than −200mVdc with RV 10.

6-2-7. Y Level Adjustment (VI-60 Board)

Signal	Color bar
Measurement point	TP 9 (CNJ 4 VIDEO OUT)
Measuring instrument	Oscilloscope
Adjusting element	RV 1
Specified value	1.0±0.1Vp-p

[Adjusting method]

1) Adjust to 1.0±0.1Vp-p with RV1.

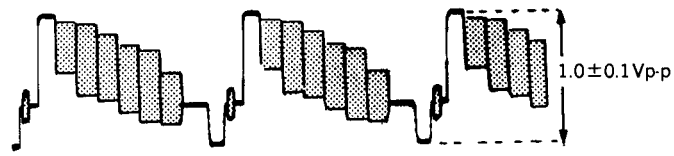


Fig. 6-5.

6-2-8. DC Balance (Y) Adjustment (VI-60 Board)

Mode	Superimpose
Signal	Color bar
Measurement point	TP 9 (CNJ 4 VIDEO OUT)
Measuring instrument	Oscilloscope
Adjusting element	RV 2
Specified value	ΔV=0±20mV

[Adjusting method]

1) Press the PAGE 1 button.
2) Press the IMAGE button so that the IMAGE indication is displayed is the display window.
3) Press the MEMORY button.
4) Set that the digital color is black with COLOR button.
5) Adjust to 0±20mV with RV2.
6) Press the CLEAR button.

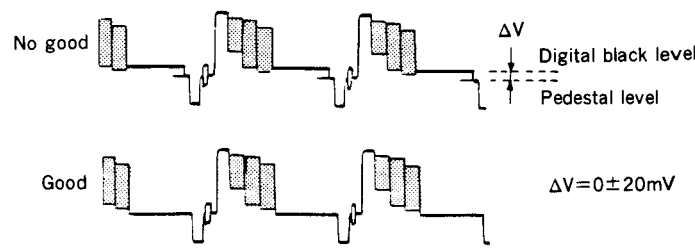


Fig. 6-6.

6-2-9. INT Burst Adjustment (VI-60 Board)

Mode	Superimpose
Signal	None
Measurement point	CNJ 4 VIDEO OUT
Measuring instrument	Vectorscope (NTSC mode)
Adjusting element	RV 4
Specified value	0±5%

[Adjusting method]

1) Press the PAGE 1 button.
2) Press the IMAGE button so that the IMAGE indication is displayed in the display window.
3) Press the MEMORY button.
4) Set the digital color is yellow with color button.
5) Adjust RV4 so that the burst luminescent spot is burst specified level 0±5% at the vectorscope.
6) Confirm that the yellow luminescent spot within the yellow reproductivity frame (□) at the vectorscope.
7) Press the CLEAR button.

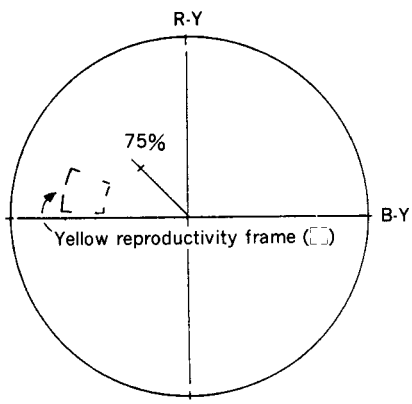


Fig. 6-7.

6-2-10. EXT Chroma Level/Phase Adjustment (VI-60 Board)

Mode	Superimpose
Signal	Color bar
Measurement point	CNJ 4 VIDEO OUT
Measuring instrument	Vectorscope (NTSC mode)
Adjusting element	RV 6 (LEVEL) RV 5 (PHASE)
Specified value	The yellow luminescent spot must be within the yellow reproductivity frame.

Note : On RV5 is not satisfied with phase adjustment, do all over agein the "6-2-6. TINT Adjustment" and later to do adjustment agein.

[Adjusting method]

1) Press the PAGE 1 button.
2) Press the IMAGE button so that the IMAGE indication is displayed in the display window.
3) Press the MEMORY button.
4) Set the digital color is yellow with COLOR button.
5) Adjust RV 6 and RV 5 so that the yellow luminescent spot with in the yellow reproductivity frame (⊞) at the vectorscope.
6) Press the CLEAR button.

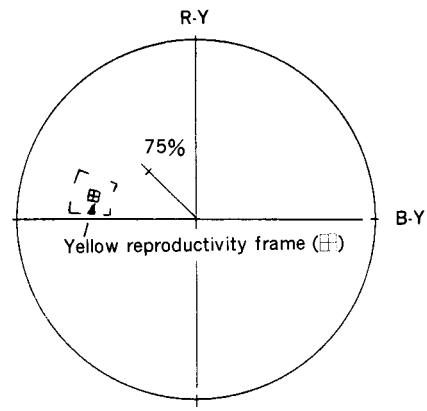


Fig. 6-8.

6-2-11. DC Balance (C) Adjustment (VI-60 Board)

Mode	Superimpose
Signal	Color bar and None
Measurement point	TP 10 (Pin⑫ of IC 213)
Measuring instrument	Oscilloscope
Adjusting element	RV 3
Specified value	ΔV=0±10mV

[Adjusting method]

1) Input the color bar signal.
2) Press the PAGE 1 button.
3) Press the IMAGE button so that the IMAGE indication is displayed in the display window.
4) Press the MEMORY button.
5) Set that the digital color is block with COLOR button.
6) The input signal should be no signal.
7) While pressing the internal switch of CNJ 2 S VIDEO OUT by a rod, make adjustment of 8).
8) Adjust with RV 3 so that the difference (ΔV) of TP 10 output waveform is 0±10mV.
9) Press the CLEAR button.

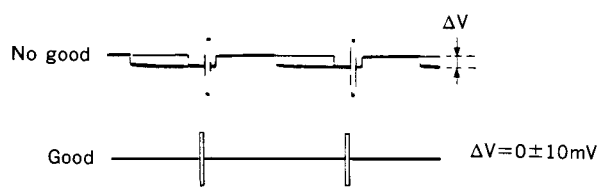


Fig. 6-9.

6-2-12. Chroma Level Adjustment (VI-60 Board)

Connect the measuring instruments as shown in the following diagram.

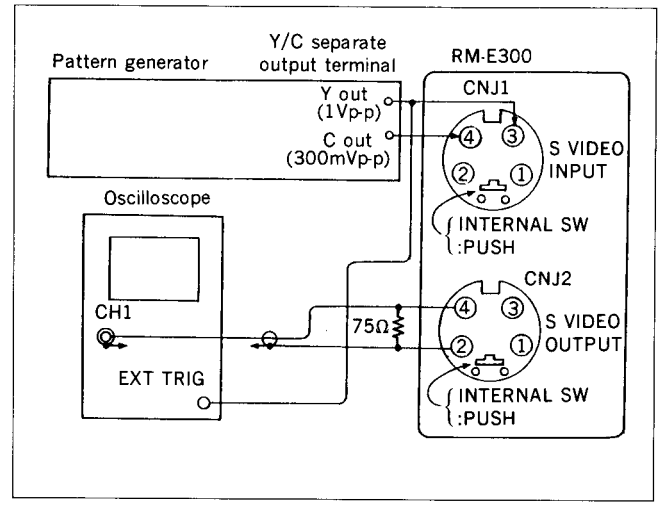


Fig. 6-10.

Signal Measurement	Color bar (S VIDEO INPUT) Refer to the Fig. 6-10.
Measurement point	Refer to the Fig. 6-10.
Measuring instrument	Oscilloscope
Adjusting element	RV7
Specified value	300±30mVp-p

[Adjusting method]

1) Adjust RV7 so that the burst level is 300±30mVp-p.

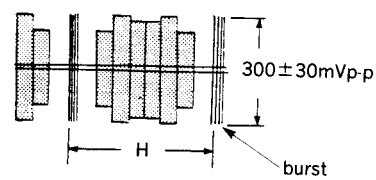
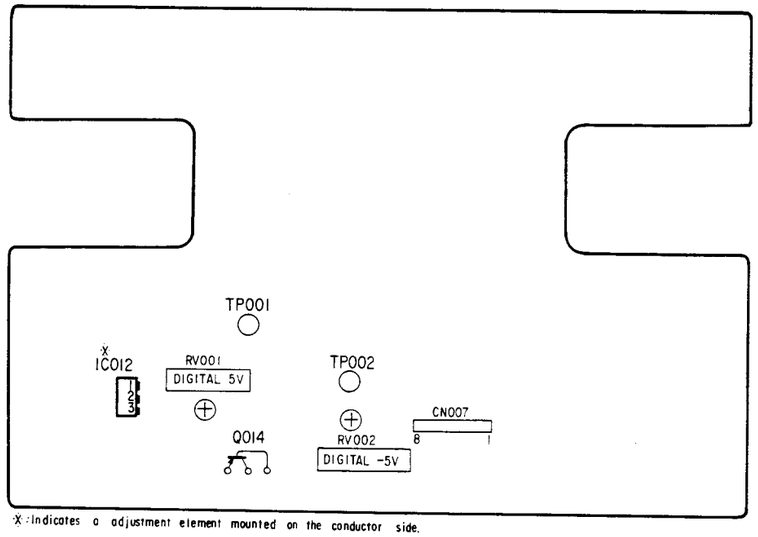


Fig. 6-11.

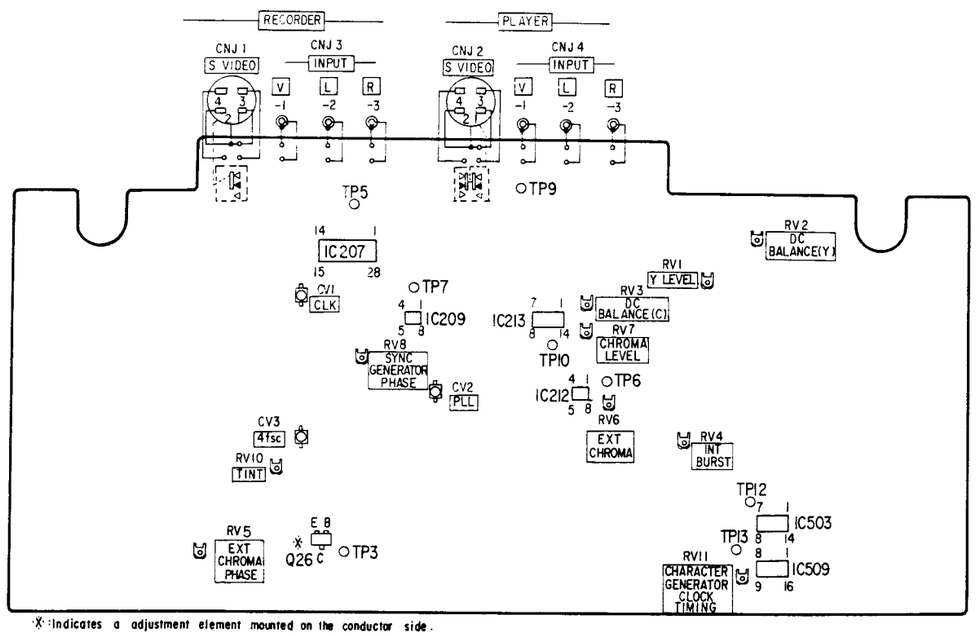
6-3. PARTS LOCATION DIAGRAM RELEVANT TO THE ADJUSTMENTS

MC-33 BOARD (COMPONENT SIDE)



·X : Indicates a adjustment element mounted on the conductor side.

VI-60 BOARD (COMPONENT SIDE)

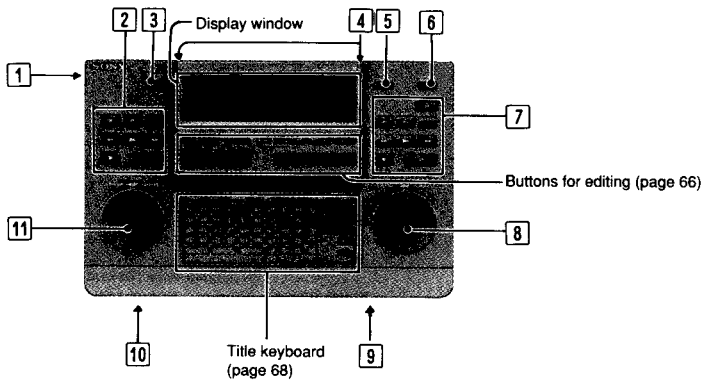


·X : Indicates a adjustment element mounted on the conductor side.

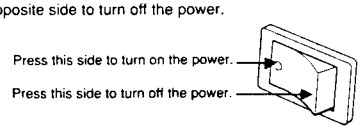
SECTION 7
GENERAL

This section is extracted from instraction manual.

7-1. LOCATION AND FUNCTION OF CONTROLS



1 POWER switch
Press the dot mark to turn on the power. Press the opposite side to turn off the power.



2 Tape transport buttons (for the player)
II▶ FRAME button*
I▶ SLOW (1/5 speed) button*
× 2 (double speed) button*
◀◀ REW (rewind) button
▶ PLAY button
▶▶ FF (fast-forward) button
■ STOP button
II PAUSE button
The indications appear at the left side in the display window.
* These buttons function when the VCR to be used has the same functions.

3 COUNTER RESET button (for the player)
Press to reset the counter of the player to "0000" or "0H00M00S".

4 Infrared beam emitter
After the signal of another remote control unit (infrared control) is memorized, the control signals are transmitted from here.
The control signal of the Sony Remote Commander is also transmitted from here.

5 TIMING ADJ button
Press to shift the timing of transmission of the recording start control signal from this unit. First press this button and then ← PGM or PGM →.

6 COMMAND MEMORY button
When you use other manufacturers' VCR for the recorder, press to memorize the infrared control signal of the remote control unit in the RM-E300.

7 Tape transport buttons (for the recorder)
The functions except the ● **REC** (recording) button are the same as those of the tape transport buttons for the player.
Even if the RECORD and PLAY buttons of the VCR to be used must be pressed for recording, press only the ● REC button on this unit.
When the recorder is connected to the CONTROL L connector, the indication remains displayed. When the recorder is connected to the CONTROL S connector or controlled by the memorized infrared control signal, the indication is displayed only when the command signal is transmitted by pressing the button.

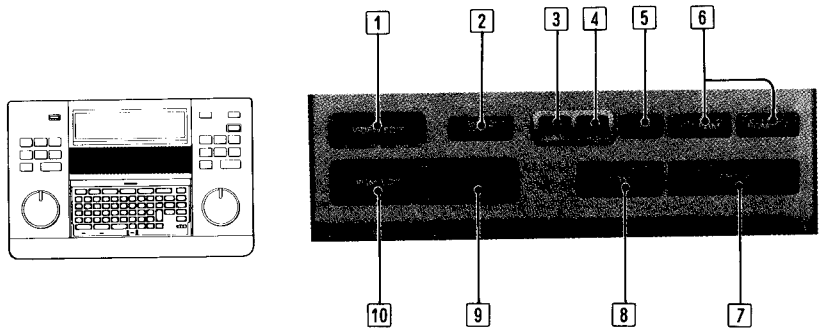
8 Shuttle dial (for the recorder)
Turn to detect the point where the recording should begin.
The desired playback speed is selected by the turning angle of the dial. Turn it clockwise for forward playback, or counterclockwise for reverse playback. This dial may not function with some VCRs.

9 Infrared beam detector
When the infrared control signal of other manufacturers' remote control unit is memorized, put another remote control unit opposite the detector.

10 Lithium battery compartment (bottom)
Insert the lithium batteries to keep the data for editing, title, and the control signal of other manufacturers' remote control unit in memory.

11 Shuttle dial (for the player)
Turn to detect the point where the playback should begin. The function is the same as that of the shuttle dial for the recorder 8.

Buttons for editing



[1] **VIDEO EDIT button**
When the player and the recorder are set to the stop mode, press to start playback of the player and recording of the recorder simultaneously.
When you edit the tape using this button, the TIMING ADJ button does not function.

[2] **GO TO button**
Press to check the picture of the cut-in or cut-out point. First press the PGM button, select the cut-in or cut-out point with the ← PGM/PGM → button and then press the GO TO button. The tape is in the playback pause mode at the cut-in or cut-out point.
However, when this button is pressed twice, the player is set to the stop mode.

[3] **AC button**
Press to clear all the memorized editing data for the PGM 1 to PGM 8. When this button is pressed while the MEMORY indication is displayed, all the control signals memorized for other manufacturers' remote control unit will be cleared.

[4] **C button**
Press to clear the editing data of one scene at every cut-in or cut-out point. When the title is memorized, if both cut-in and cut-out points are cleared, the title is also cleared from the scenes.

[5] **LAP button**
Press to display the approximate total time of all the memorized scenes. This button is effective only when the player is equipped with a counter with "H,M,S" indications.

[6] **← PGM/PGM →**
Press to display the cut-in or cut-out point of a scene. Press ← PGM button to rewind the tape and PGM → to advance the tape. After the count number of the cut-in or cut-out point appears for about 3 seconds, the current count number appears.
Also press to adjust the timing adjust count during the timing adjustment operation.

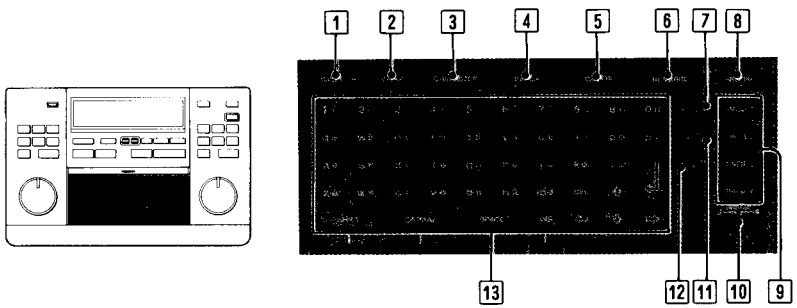
[7] **ENTRY button**
Press to memorize the counter number of the cut-in and cut-out points.

[8] **PGM button**
Press to have the cut-in or cut-out point of a scene memorized or changed. The scene number (PGM 1) is displayed in the display window.
To resume the condition before the button is pressed, press this again.

[9] **PREVIEW button**
Press to preview the memorized scenes. The scenes will be played back in sequence. The ! mark is displayed on the picture from the cut-in point to cut-out point.
If this button is pressed during the preview operation, the previewing will stop.

[10] **PGM EDIT button**
After presetting the scenes to be edited, press to execute automatic assemble editing.
If this button is pressed during automatic assemble editing, automatic assemble editing will stop.

Title keyboard



1 C (character) POSITION button
When the CHARACTER indication is displayed in the display window, press to adjust the position of the character title on the monitor. Set the position with the cursor control buttons. To release this function, press this again.

2 CLEAR button
- When the title is displayed, the displayed title is cleared.
- When CHARACTER is displayed in the display window, the character title is cleared.
- When IMAGE is displayed in the display window, the video image memory is cleared.

3 CHARACTER button
When the page number is blinking by pressing one of the PAGE 1 to 4 buttons, press to write the character title. The cursor blinks and the CHARACTER indication lights.
When this button is pressed again, the cursor and the CHARACTER indication disappear and the character title is displayed. In this condition, the character title cannot be written.

4 IMAGE button
When the page number blinks after pressing one of the PAGE 1 to 4 buttons, press to memorize the video image from the video camera recorder. The IMAGE indication will be displayed in the display window. When this button is pressed again, the video image cannot be memorized and displayed as the title.

5 COLOR button
Press to choose the title color. First press the CHARACTER button or the IMAGE button so that the CHARACTER or IMAGE indication is displayed in the displayed window. Each push of this button changes the color sequentially. The color can be selected from 8 colors.

6 REVERSE button
Press to reverse the video image memory and background when the IMAGE indication is displayed in the display window.

7 SCROLL button
When the SCROLL indication is displayed in the display window, press one of the PAGE 1 to 4 buttons. The video image memory is scrolled from bottom to center. When you press the DISPLAY OFF button, the video image memory is scrolled from center to top. The character title cannot be scrolled.
To release the scroll mode, press this again.

8 MEMORY button
When the IMAGE indication is displayed in the display window, press to memorize the video image from the video camera recorder.

9 PAGE 1,2,3 and 4 buttons
Press to display the title. The page number blinks in the display window. Four titles can be memorized.

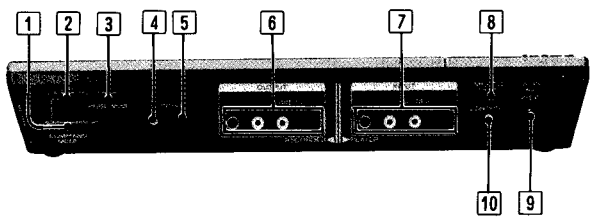
10 IMAGE 2/4 selector
Selects the density of the picture.
Set to the 2 position to get the fine video image memory. When this is set to 2, the video image can be memorized only in the PAGE 1 and 2 buttons.

11 SUPER/TITLE select button
When the SUPER indication is displayed in the display window, the title will be superimposed onto the picture. When the TITLE indication is displayed in the display window, the background is colored gray and only the title is displayed.

12 DISPLAY OFF button
Press to go off the title on the TV screen.
When the SCROLL indication is displayed in the display window, the video image memory is scrolled from center to top.

13 Typing keyboard
For details on use, see "To create the character title" on page 24.

Rear panel



[1] **SONY/MEMORY select switch**

SONY	A Sony product is used for the recorder.
MEMORY	Other product is used for the recorder.

[2] **COMMAND MODE (remote control mode) selector**
When a Sony product is used for the recorder, set this selector according to the COMMAND MODE selector on the VCR.

[3] **PAUSE MODE selecter**
To release the recording pause mode, set this selector according to the button on the VCR to be used.
A : To release with the ❚❚ PAUSE button.
B : To release with the ► PLAY button.
C : To release with the ● REC button.
When a Sony product is used for the recorder, set this to "**A**".

[4] **CONTROL L connector (stereo mini-minijack)**
Connect to the CONTROL L connector on the recorder.

[5] **CONTROL S connector (minijack)**
Connect to the CONTROL S connector on the recorder. When the CONTROL L and CONTROL S connectors are equipped with the recorder, use the CONTROL L connector.

[6] **RECORDER OUTPUT connectors**
R and L jacks (phono type): for audio connection.
V jack (phono type): for video connection
S connector (4-pin mini-DIN):
for S video connection when the S VIDEO INPUT connector is equipped with the recorder.

[7] **PLAYER INPUT connector**
R and L jacks (phono type): for audio connection.
V jack (phono type): for video connection.
S connector (4-pin mini-DIN):
for S video connection when the S VIDEO OUTPUT connector is equipped with the player.

The signal input to the S VIDEO INPUT connector is output from only the S VIDEO OUTPUT connector and the signal input to the phono type input jacks is output from only the phono type output jacks. Connect the recorder and the player to each S connector.

[8] **SHUTTLE select switch**

A	When the shuttle dial is not equipped with the player.
B	When the shuttle dial is equipped with the player, the playback speed is adjustable with the shuttle dial on this unit.

[9] **DC IN 6 V jack**
Connect the supplied AC-D4L AC power adaptor.

[10] **CONTROL L connector (stereo mini-minijack)**
Connect to the CONTROL L connector on the player.

7-2. CAUTION INDICATIONS

Indication in display window	Cause
CUT IN is blinking.	The count number of the cut-in point is larger than that of the cut-out point.
CUT OUT is blinking.	The count number of the cut-out point is smaller than that of the cut-in point.
PGM is blinking.	The cut-in or cut-out point is being reset at a point set already.
HMS of the counter is blinking.	After a program is created with a player equipped with a number counter, a program is being created with a player equipped with a time counter.
IMAGE is blinking.	When the IMAGE 2/4 selector is set to 2, the video image memory is being memorizing in PAGE 3 or 4.

7-3. SUPPLEMENT

According to the VTR used, the following symptoms will appear. However they are not failures of this unit.

Item	Symptom	Model
Recording mode indication	When the recording mode of the VTR is SP, ▯▯ is displayed in the display window of the RM-E300.	SLV-801, SLV-802, SLV-201, SLV-201F, SLV-202
Counter indication	When a tape recorded in the LP mode is played back, the counter shows half of the actual playback time. Therefore, the total lap time is also half of the actual lap time.	CCD-F330E, CCD-F340E, CCD-V90E
Frame-by-frame playback	During frame-by-frame playback, the playback pause indications (►, PAUSE) and the frame (❚❚►) indication appear alternately.	CCD-F330E, CCD-F340E, CCD-V90E
	When the VTR is connected to the CONTROL L connector of the RM-E300, the picture is played back one frame every one push of the FRAME button. The playback pause indications (►, PAUSE) are displayed in the display window of the RM-E300.	SLV-402
Double speed playback	When the X2 button of the RM-E300 is pressed, the STOP indication is displayed in the display window of the RM-E300. However, the VTR is set to the playback mode, as it is not equipped with the X2 function. (Only when the VTR is connected to the CONTROL L connector of the RM-E300.)	SLV-802

7-4. OUTLINE OF THE RM-E300

The RM-E300 editing controller is used to select and record desired scenes from an original tape in a desired sequence. It also allows for superimposing character titles created with the keyboard and/or a telop card shot with the video camera recorder onto the tape to be edited. (Only titles cannot be inserted to the edited tape.)

Use a Sony product for playback, but any desired VCR can be used for recording.

The cut-in and cut-out points are memorized from the counter number, so frame editing is impossible.

The Video Equipment Used with This Unit

Player

Use a Sony product that has one of the following connectors:

8 mm Video camera recorder	REMOTE 5-pin connector or stereo mini-minijack 
8 mm format VCR	CONTROL L 5-pin connector 
ED Beta format or Beta format VCR	
VHS format VCR	

In this manual, the 8 mm video camera recorder is used for explanations

Recorder

Sony recorder	**Video product**	Use a video product that has the following connector.
	ED Beta or Beta format VCR **VHS format VCR** **8 mm format VCR**	CONTROL L 5-pin connector or CONTROL S (CONTROL) minijack 
	8 mm format video camera recorder	REMOTE 5-pin connector or stereo mini-minijack 
	VCR which is operated with an infrared remote control unit.	
Other manufacturers' video products which is operated with an infrared remote control unit. (Some VCRs cannot be used with this unit.)		

For connections and the position of each select switch, see page 10 to 20.
Connect the monitor (or TV) to the recorder.

7-5. ABOUT THE INSTRUCTION MANUAL

This manual consists of 6 sections.

(page)

1 **Outline and features** (5, 6)

2 **Preparation** (8–20)
The connections are explained. Select the appropriate connection according to your VCR.

3 **Let's try it out** (21–23)
Referring to the quick guide for operations, let's try editing. Some examples are included in the guide. If no trial is needed, skip this step.

4 **To create the titles** (24–40)

5 **Editing** (41–63)

6 **Others** (64–73)
Locations and function of controls, specifications, troubleshooting, etc. are included.

7-6. FEATURES

Each tape transport buttons for the player and the recorder
As the player and the recorder can be operated with this unit alone, it is easy to edit the tape.

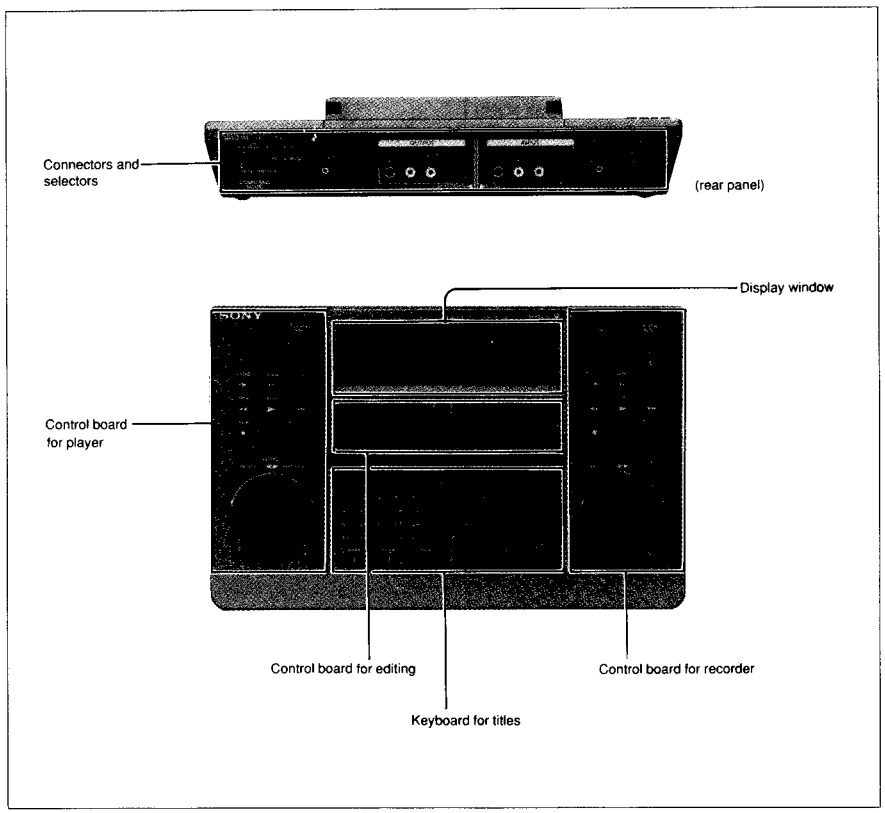
Compatible with many kinds of VCR
A Sony or other VCR can be used for the recorder by connecting it to the CONTROL L or CONTROL S connector, or memorizing the infrared control signal of the remote control unit.

Automatic assemble editing
Up to 8 desired scenes can be memorized in this unit and edited automatically in a desired sequence.

Wide liquid crystal display window
Data for editing is displayed.

Title function
The character title and/or the video image from the connected video camera recorder can be memorized and superimposed onto a desired scene.

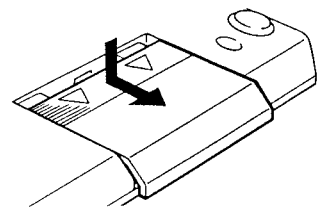
The RM-E 300 video editing controller facilitates all the edit operations by controlling both the player and the recorder. For details on "Location and function of controls", see pages 64 to 70.



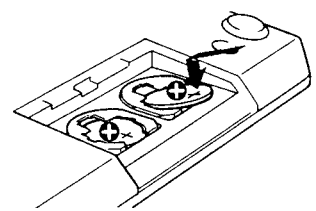
7-7. TO INSERT LITHIUM BATTERIES

This unit uses two lithium batteries to keep data for editing, titles or infrared control signal of the remote control unit in memory.

1 Open the cover of the lithium battery compartment (bottom).



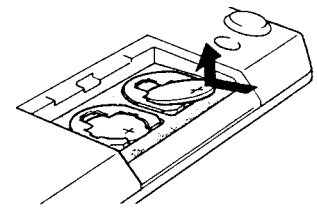
2 Install the supplied two CR2025 lithium batteries with correct polarity.



3 Close the cover.

4 Connect the AC power adaptor and turn on the POWER switch on the left side. Check that the ⊏□ mark is not displayed.

To remove the lithium batteries
Press the side of the battery in the direction indicated for installation.



Lithium battery life
Approximately 1 year in normal operation.
When the lithium batteries become weak, the ⊏□ mark will light in the display window. In this case, replace the batteries with Sony CR2025 lithium batteries. Use of other batteries may present a risk of fire or explosion.

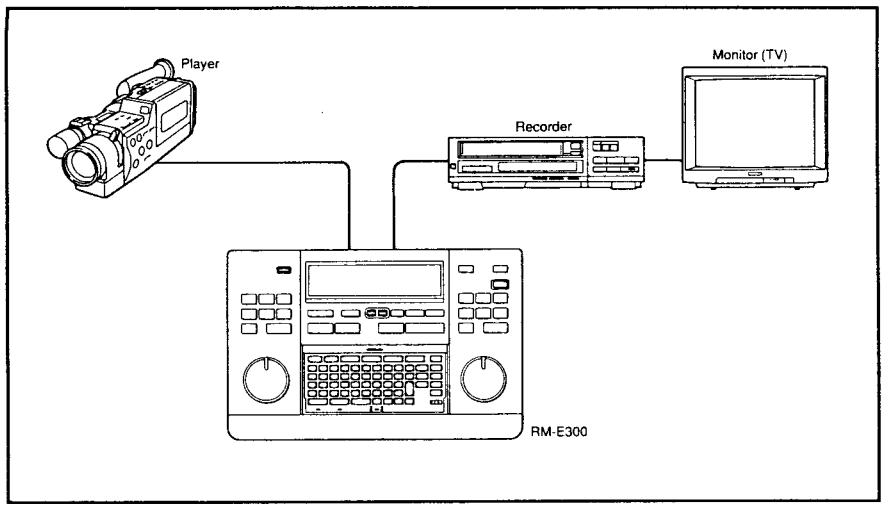
Note
Replace the batteries within approximately 20 seconds to keep the data for editing, titles or infrared control signal of the remote control unit in memory.
When the batteries are discharged completely, memorize them again.

Notes on lithium battery
- Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Be sure to observe the correct polarity when installing the battery.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- Do not break up the battery nor throw it into a fire, which might cause it to explode. Carefully dispose of the used batteries.

WARNING
Battery may explode if mistreated.
Do not recharge, disassemble or dispose of in fire.

7-8. BEFORE CONNECTION

The editing controller, player, recorder and the monitor (or TV) are connected as follows.



- Connect the RM-E300, player and recorder as the above illustration. For details on the connection, see the following pages.
- Use a Sony product equipped with the CONTROL L (or REMOTE) for the player.
- When the CONTROL (L or S) connector is not equipped with the recorder, control the recorder remotely with an infrared remote control unit.

Notes on connection

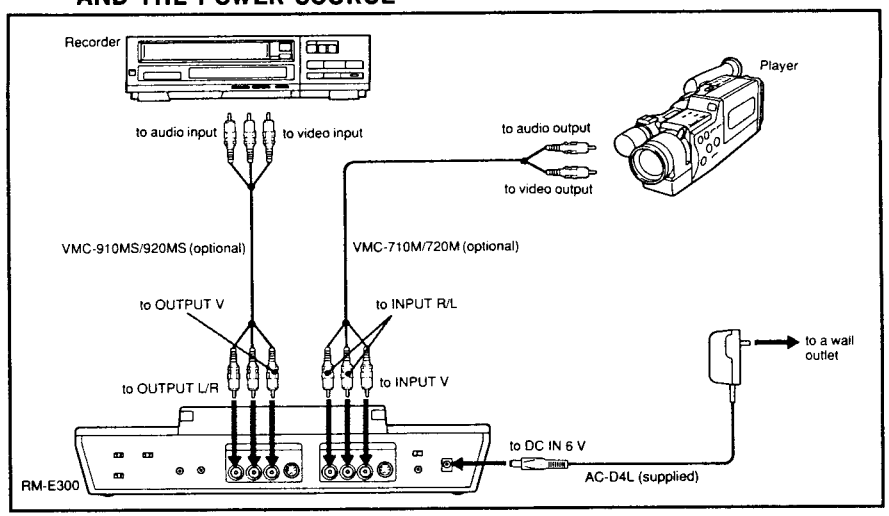
- Be sure to supply the power to the recorder and the player from a wall outlet (using an AC pack if necessary). Never use battery packs for the power source as they may discharge during of editing.
- Connect the red plug to the right jack, the white plug to the left jack and the yellow plug to the video jack.

Note on power connection
Disconnect the AC power adaptor after the power of this unit is turned off so that the memorized data is not erased.

Note on the AC power adaptor
If an AC power adaptor not manufactured by Sony is used, a fuse must be installed in the adaptor cord and the polarity of the plug must be as illustrated.

Polarity of the Sony's plug

7-9. CONNECTION OF THE VIDEO/AUDIO JACKS AND THE POWER SOURCE



When the recorder and the player are equipped with the S VIDEO connector
Use the optional YC-15V/30V S video connecting cable.

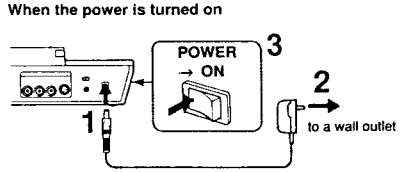
Note
The S video signals to be input to the S PLAYER INPUT connector will be output only from the S RECORDER OUTPUT connector.

When the recorder is a monaural type
Use the optional VMC-710M/720M connecting cable.

When the player is a stereo type
Use the optional VMC-910MS/920MS connecting cable.

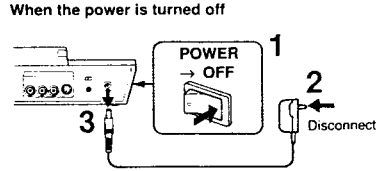
Notes on when the power is turned on or off

When the power is turned on



If the AC power adaptor is connected to this unit after the power is turned on, it may cause a malfunction. If this happens, turn the power off and on again.
When the power is turned on, the power lamp may light momentarily. This is not a failure of the unit.

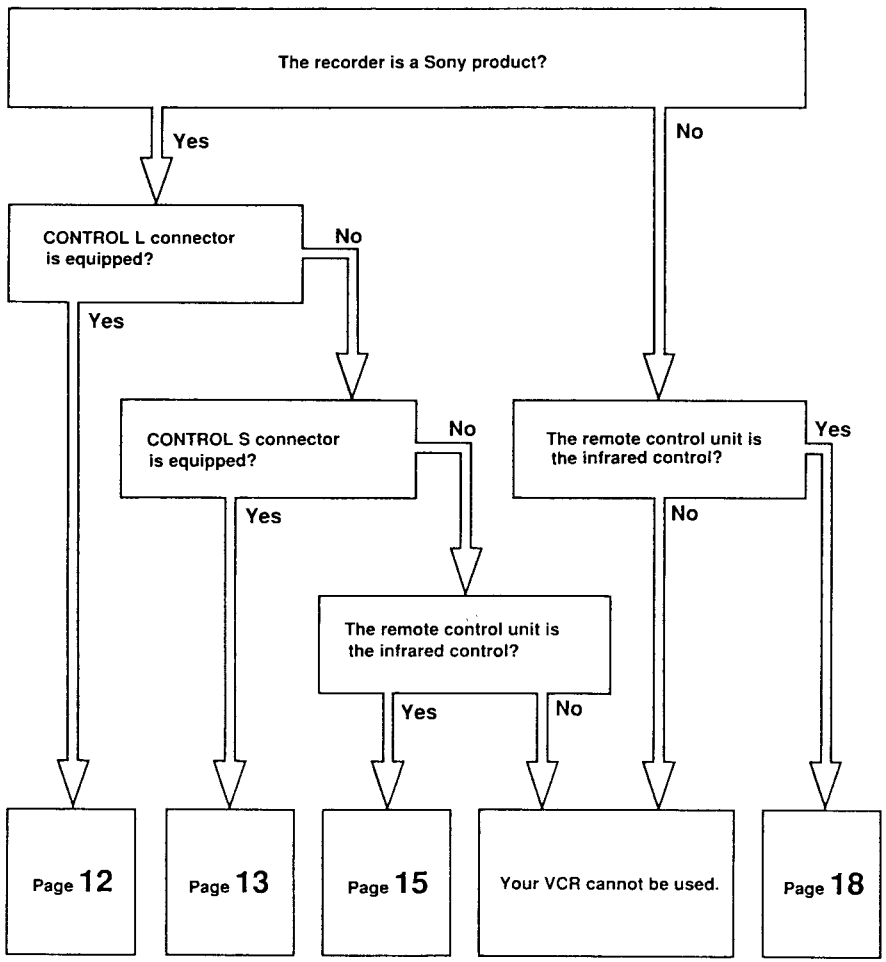
When the power is turned off



If the AC power adaptor is disconnected before the power is turned off, the memory back up function cannot function and the lithium battery will be rapidly consumed.

7-10. SELECTION OF THE CONTROL OF THE RECORDER

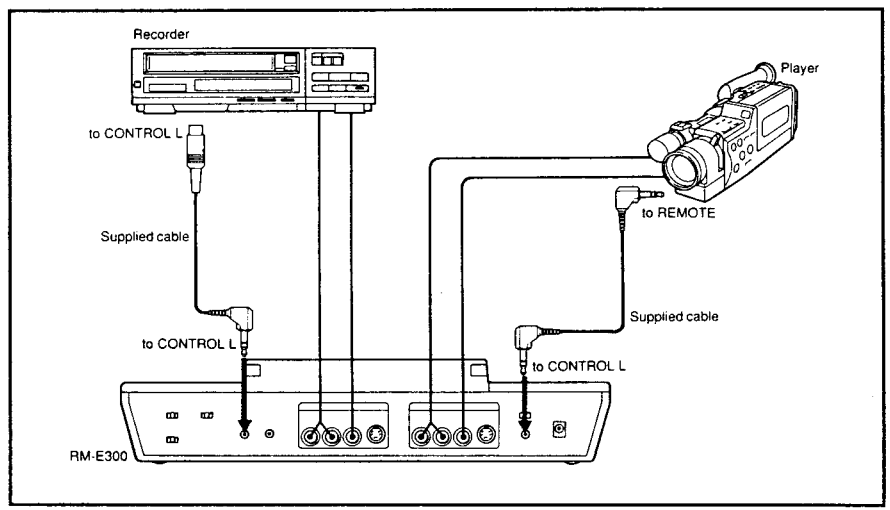
To select the connection or control corresponding to the recorder, follow the flow chart below.



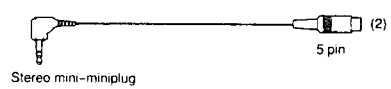
7-11. CONNECTION OF THE CONTROL SIGNAL

Only a Sony video product can be connected to the CONTROL L or S connector on this unit.

When the recorder is equipped with the CONTROL L connector

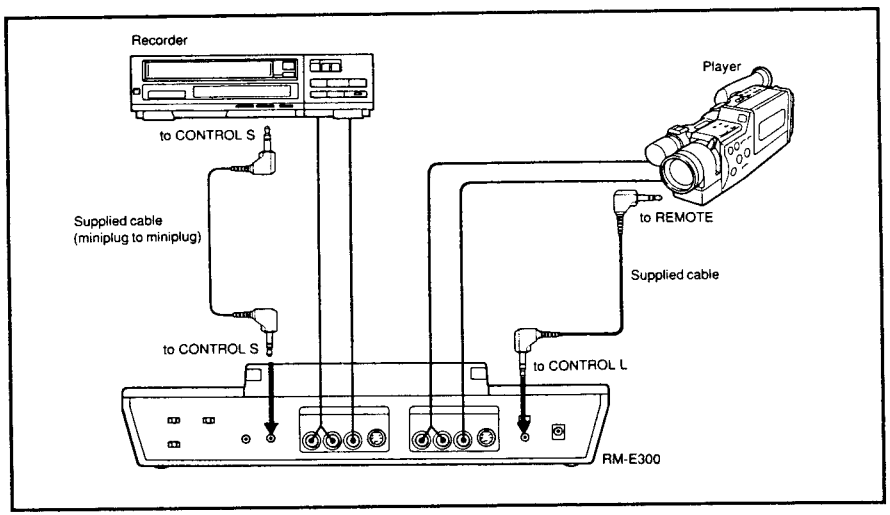


About the supplied connecting cable for the CONTROL L connector
Two kinds of four cables are supplied.
Use them according to the shape of the CONTROL L (or REMOTE) connector on the recorder and the player.



Note
When the VCR is equipped with the MASTER/SLAVE selector, set the selector to SLAVE.

When the recorder is equipped with the CONTROL S connector

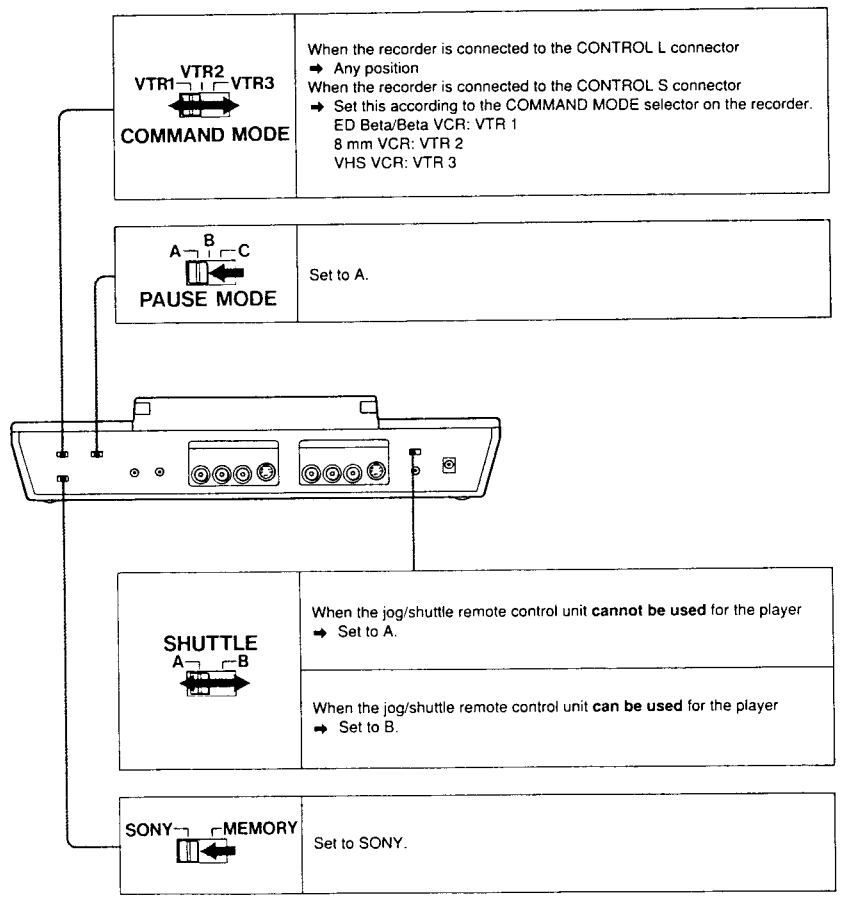


If the recorder is connected to the CONTROL S connector, disconnect the cable from the CONTROL L connector for the recorder.

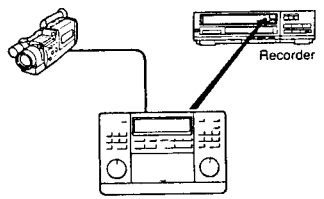
When the recorder is equipped with both CONTROL L and CONTROL S connectors
We recommend use of the CONTROL L connector.

Position of Each Select Switch

Set the switches on the rear panel as follows.

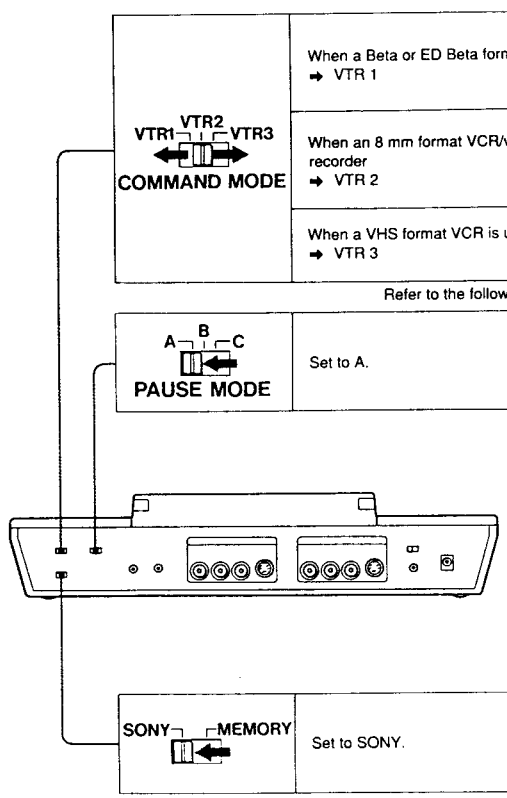


7-12. WHEN USING A SONY RECORDER WITHOUT THE CONTROL L OR CONTROL S CONNECTOR



If the recorder can be operated with the infrared remote control unit, the recorder can also be operated with this unit. The tape transport of a Beta format, 8 mm format and VHS format VCR can be controlled with this unit.

Set the switches on the rear panel as follows.



When the remote control signal is transmitted correctly, the VTR 1, 2 or 3 (setting mode) indication is displayed in the display window.

Note on the COMMAND MODE selector
When the infrared beam detector is equipped with the player and the recorder

1 Set the COMMAND MODE selector on the player to a different position from that on the recorder.

2 Set the COMMAND MODE select switch on this unit to the same position as that on the recorder.

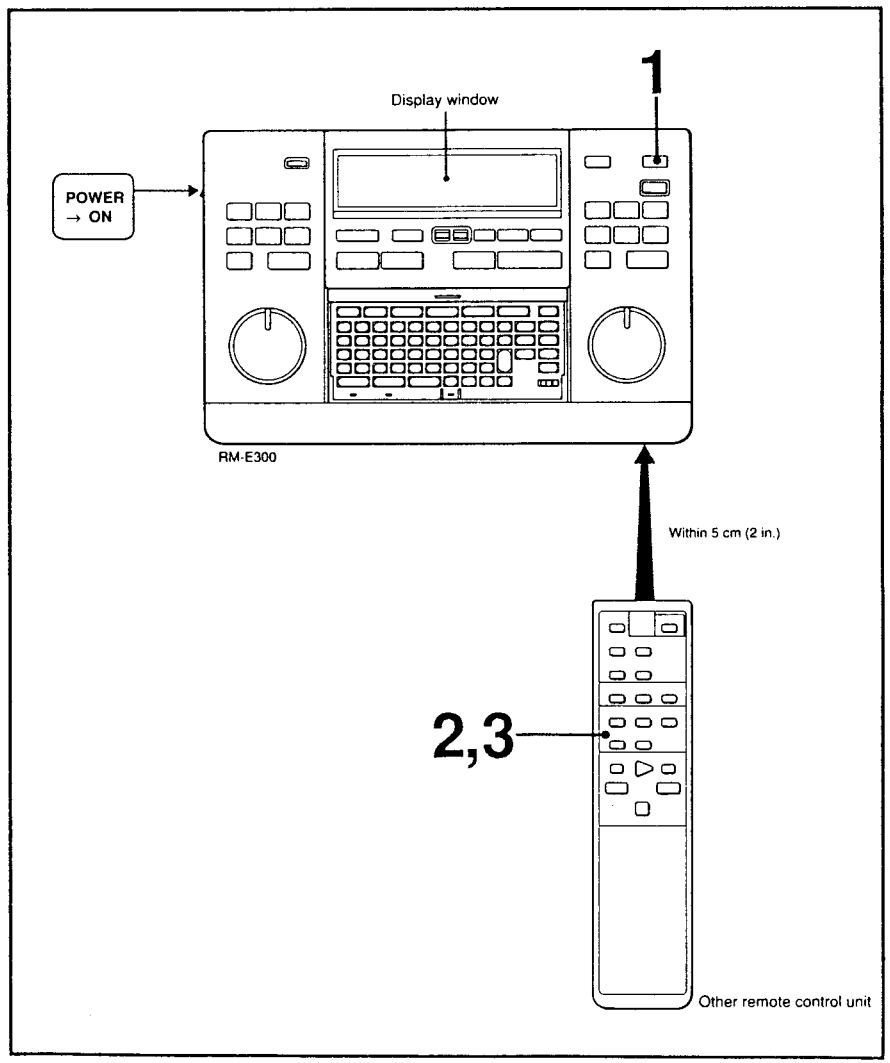
3 If the COMMAND MODE on the recorder and the player are the same and they are not equipped with the selector, cover the detector of the player with paper or equivalent.

Others
- When the connecting cable is connected to the CONTROL L or CONTROL S connector on this unit, the infrared beam cannot be emitted.
- Even if this unit is equipped with tape transport functions, if the recorder is not equipped with some of their functions, it cannot be operated with this unit.

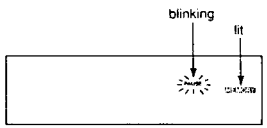
7-13. WHEN USING OTHER MANUFACTURERS' VIDEO PRODUCT AS THE RECORDER

Memorize the control signal of the tape transport in this unit.

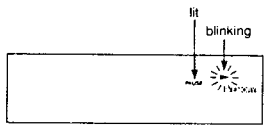
Note
The supersonic waves control signal or the special function will not be memorized in this unit.



1 **Press the COMMAND MEMORY button.**

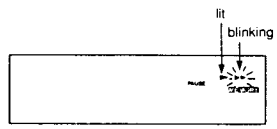


2 **Press the pause button on the other remote control unit.**



The PAUSE mark lights and this function has been memorized in this unit.

3 **Press the play button on the other remote control unit.**



Press the appropriate button on the other remote control unit to memorize the signal in the blinking mark on this unit until the signal is memorized in the X 2 mark.

Press the button on another remote control unit within 30 seconds.	If you do not press any button for about 30 seconds after the mark blinks, memory mode will be released.
To skip the memory	Press the COMMAND MEMORY button. Each time you press the COMMAND MEMORY button, the next mark blinks.
If the button corresponding to the blinking mark is not equipped with another remote control unit	You can memorize another function in that mark instead.
To stop the memorizing	Press the COMMAND MEMORY button until the x 2 mark blinks. Press the COMMAND MEMORY button again.
To clear the memory	Press the AC button while the MEMORY mark is displayed. All the memorized data will be erased.

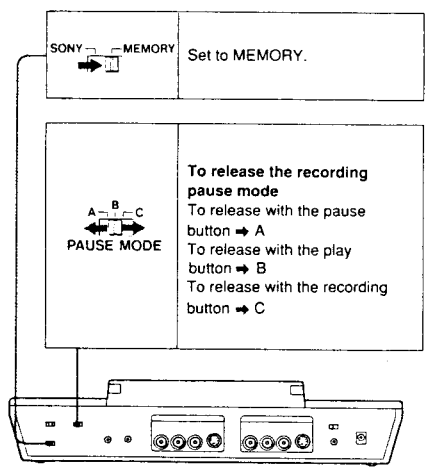
Mark and function

PAUSE : pause
▶ : playback
▶▶ : fast-forward
◀◀ : rewind
STOP : stop
REC : recording
II▶ : frame advance playback
i▶ : slow speed playback
× 2 : double speed playback

If the button corresponding to the blinking mark is not equipped with other remote control unit, press the COMMAND MEMORY button until the desired mark appears.

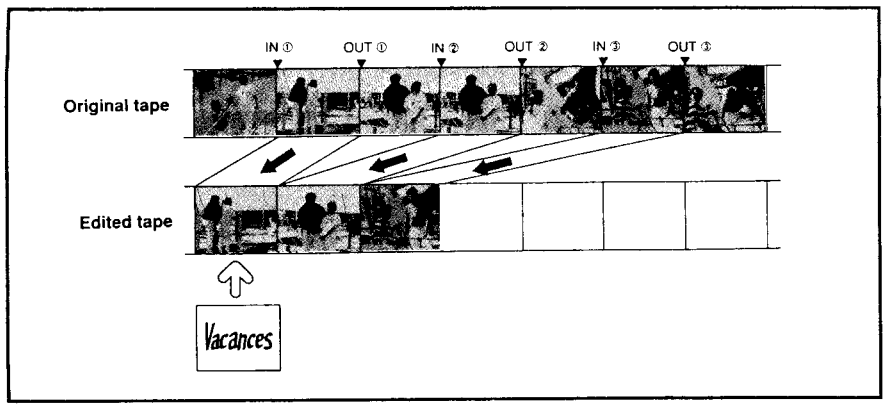
All marks will disappear from the display window approximately three seconds after the functions are memorized.

Set the switches on the rear panel as follows

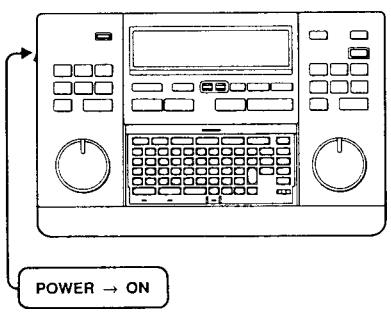


Notes
- Press the button firmly for more than 3 seconds.
- After the blinking stops, press the button to memorize the signal in the next blinking mark.
- During memory operation, remote control operation cannot be performed with this unit.
- When the power is turned off during memory operation, the memorized data will be cleared.

7-14. QUICK GUIDE FOR OPERATIONS

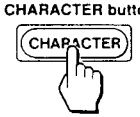


1 **Type a title.**

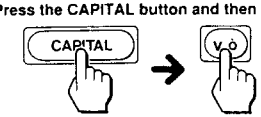


1 **Press the appropriate PAGE button.**

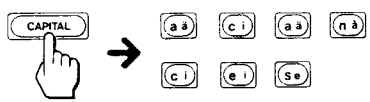
2 **Press the CHARACTER button.**



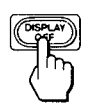
3 **Press the CAPITAL button and then type v.**



4 **Press the CAPITAL button and then type a, c, a, n, c, e, and s.**

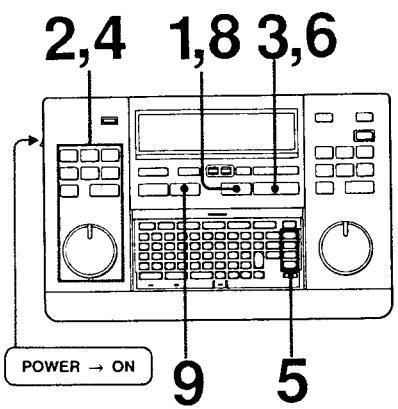


5 **Press the DISPLAY OFF button.**
(Before pressing the DISPLAY OFF button, the title can be colored or moved. For details on these operations, see page 27 or 28.)



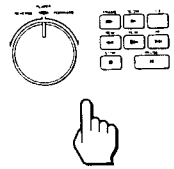
Continued

2 Decide the cut-in and cut-out points and the point where the title appears.

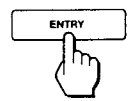


1 Press the PGM button.

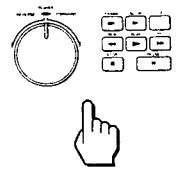
2 Locate the cut-in point (IN ⓘ) with the tape transport buttons for the player.



3 Press the ENTRY button at the cut-in point.

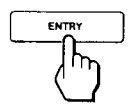


4 Locate the cut-out point (OUT ⓘ) with the tape transport buttons for the player.



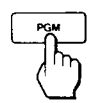
5 To display the title, press the appropriate PAGE button during locating the cut-out point.

6 Press the ENTRY button at the cut-out point
The cut-in and cut-out points have been memorized.



7 Repeat steps 2 to 6 to memorize other programs.

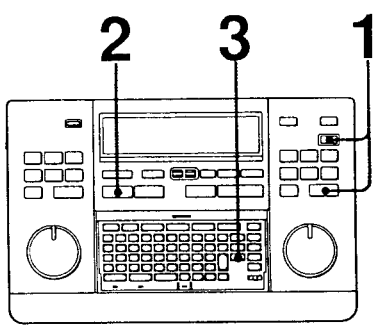
8 After memorizing all of the programs, press the PGM button.



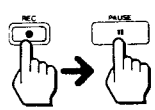
9 Press the PREVIEW button to check the programs.

Continued

3 Execute editing (automatic assemble editing).

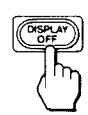


1 Locate the point where you want to start a new recording. First press the ● REC button, and then press the ❚❚ button.



2 Press the PGM EDIT button.

3 To turn off the title, press the DISPLAY OFF button during playback.



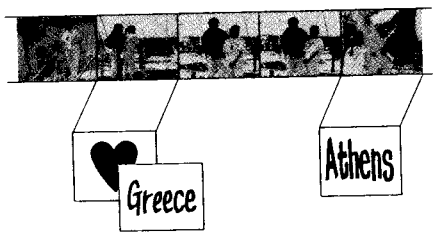
To check the edited scene

1 Rewind the tape by pressing the ◀◀ button for the recorder.

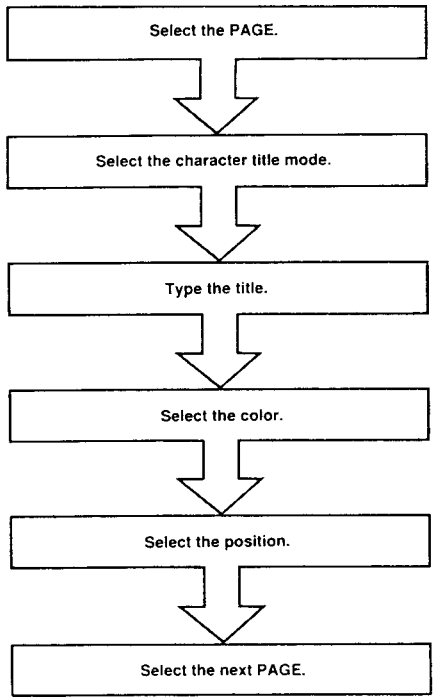
2 Play back the edited tape by pressing the ▶ button for the recorder.

7-15. KINDS OF TITLE

This unit allows you to create and memorize the title and to superimpose it to the editing tape.
The character title created with the keyboard and the video image memory title shot with the video camera recorder can be memorized in this unit. The character title and the video image memory title can be overlaid each other. The 4 titles are memorized in PAGE 1 to 4.

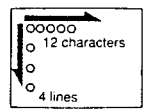


7-16. TO CREATE THE CHARACTER TITLE



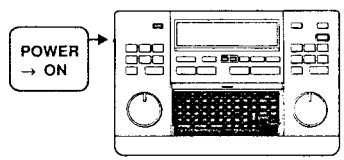
To Type the Title

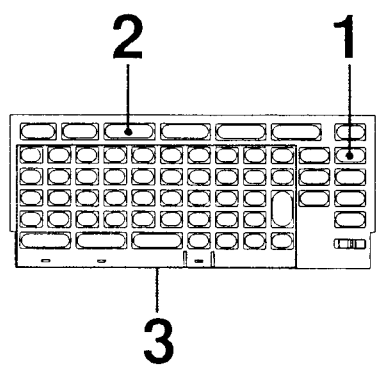
12 characters per line,
4 lines per page



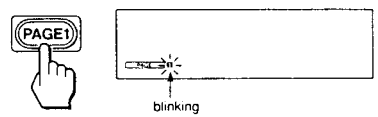
Ex. When you want to type the following title and memorize it in PAGE 1.

March 1989
Trip to
Greece

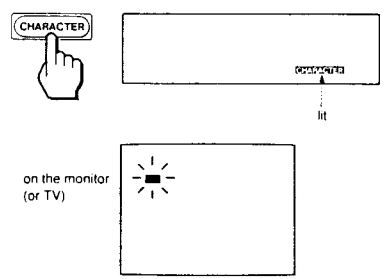




1 **Press the PAGE 1 button.**



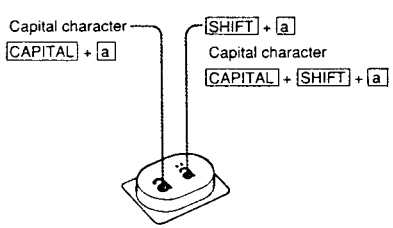
2 **Press the CHARACTER button so that the CHARACTER indication is displayed in the display window.**



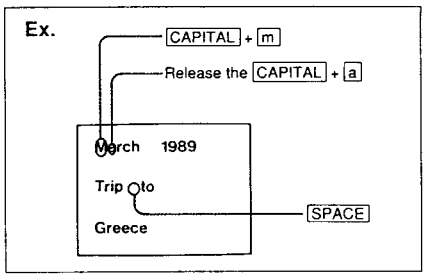
The character is typed at the point where the cursor blinks.
To move the cursor, press the ↑, ↓, →, ←, or ↵, button.

Continued

3 Type the character.



Ex.

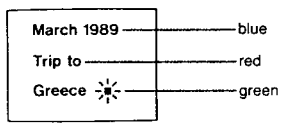


To space the characters	SPACE
To insert another character between the characters	INS + Character The INS lamp lights. To clear the insert mode, press the INS again.
To delete the character	DEL
To open a new line	↵

Note
The SHIFT, CAPITAL and INS lamps show that each button is functioning.
To release the function, press each button again.

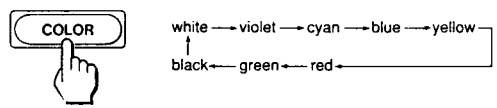
You can select the color and position of the created title.
Go on to the following operation.

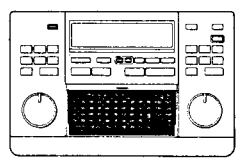
To Select the Color

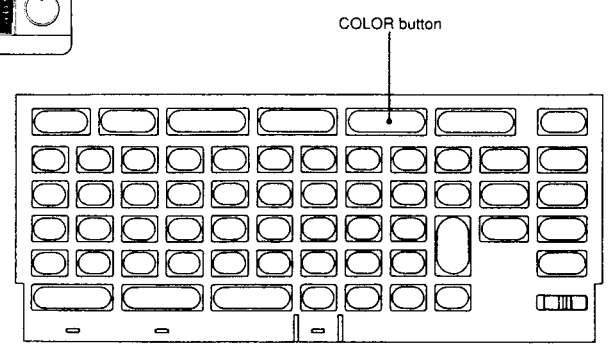


The color is selected for each line. Move the cursor to any point on the line to be colored and select the color from 8.

Each push of the COLOR button sequentially changes the color.

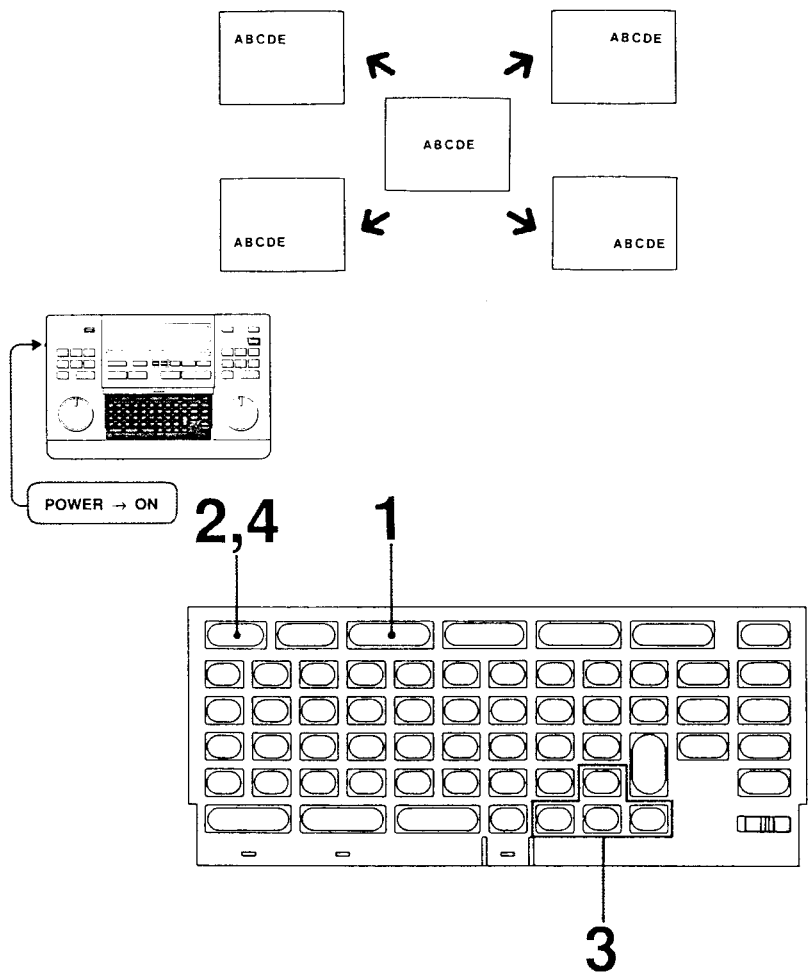




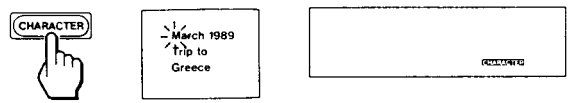


To Select the Position

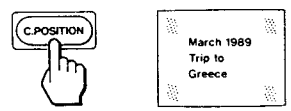
The title is moved to the desired position on the screen as follows.



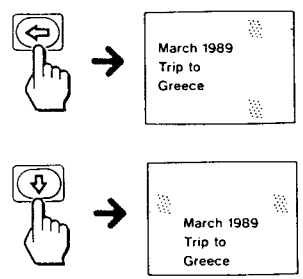
1 Press the CHARACTER button so that the CHARACTER indication is displayed in the display window.



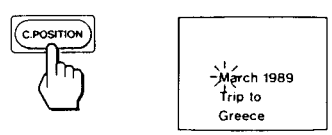
2 Press the C.POSITION button.



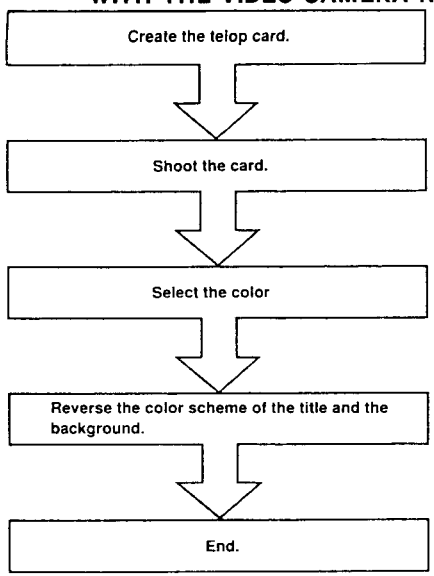
3 Position the title with the ←, ↑, ↓, or → button.



4 Press the C.POSITION button again.
The mark disappears.

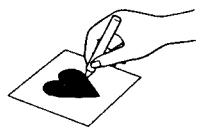


7-17. TO CREATE THE VIDEO IMAGE TITLE WITH THE VIDEO CAMERA RECORDER

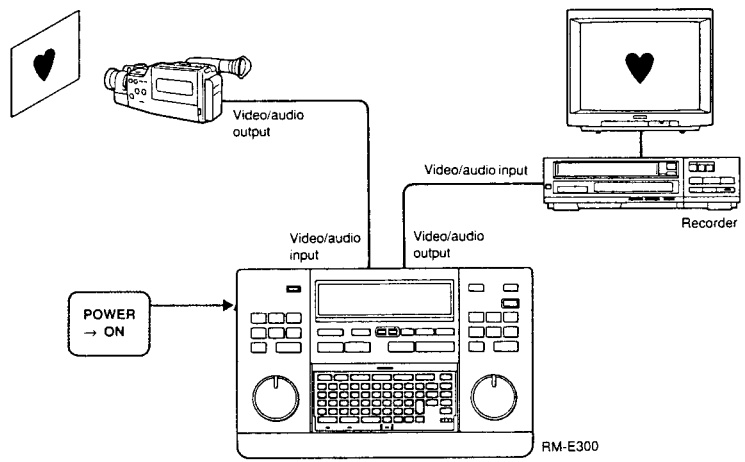


To make a desired telop card

- Use a white, plane card and write the title on it in a deep color (black is recommended for the best result) in thick characters.
- It is better to write the title simply and boldly.



To View the Title which the Video Camera Recorder is Shooting on the Monitor (or TV)



1 Attach the power source to the video camera recorder.

2 Set the POWER switch on the video camera recorder to CAMERA.

3 Set the input select switch on the recorder to the line input.

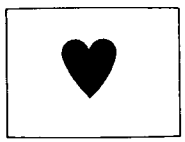
4 Select the channel for the recorder or set the input selector to VTR on the monitor (or TV).

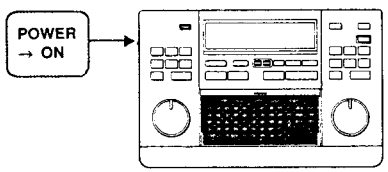
Hints for shooting

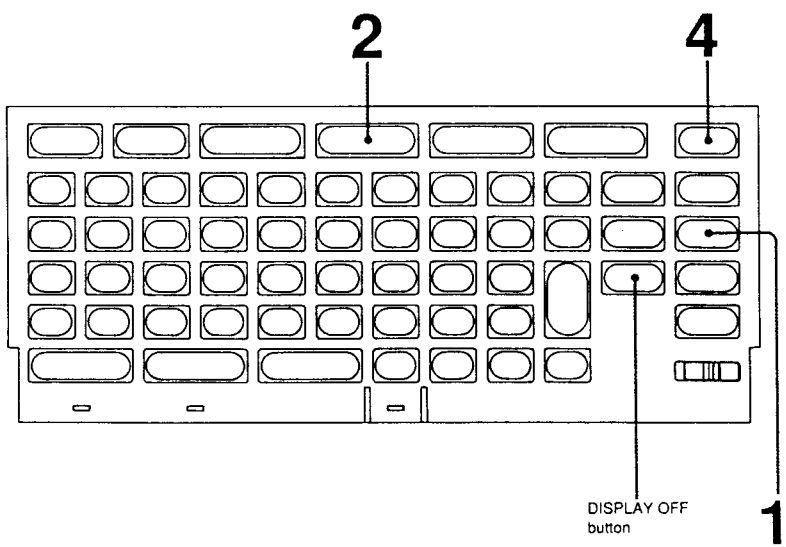
- When deciding the title size, check the effective picture size on your video monitor.
- Use of an appropriate light is recommended for a better result.

To Memorize the Title

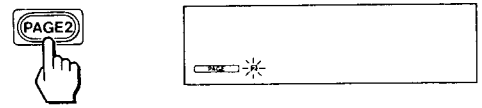
Ex. When you want to memorize the video image title in PAGE 2.







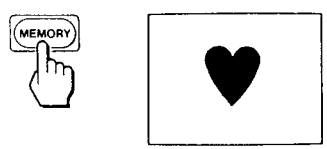
1 **Press the PAGE 2 button.**



2 **Press the IMAGE button so that the IMAGE indication is displayed in the display window.**

3 **Check the focusing on the monitor** (or TV).

4 **Press the MEMORY button.**
The title will be memorized.

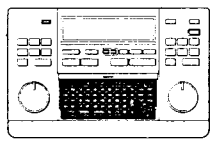


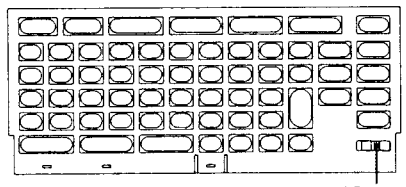
To select the color or reverse the color scheme of the title and the background, see page 34.

To turn off the title
Press the DISPLAY OFF button.

To memorize the video image in the fine mode

Set the IMAGE 2/4 selector to "2". In this case, the video image is memorized only in PAGE 1 and 2.





	Title to be memorized in each PAGE			
	PAGE 1	PAGE 2	PAGE 3	PAGE 4
IMAGE 2 4	• Character title • Video image memory	• Character title • Video image memory	• Character title • Video image memory	• Character title • Video image memory
IMAGE 2 4	• Character title • Fine video image memory	• Character title • Fine video image memory	• Character title	• Character title

To memorize the playback picture of the player as the title

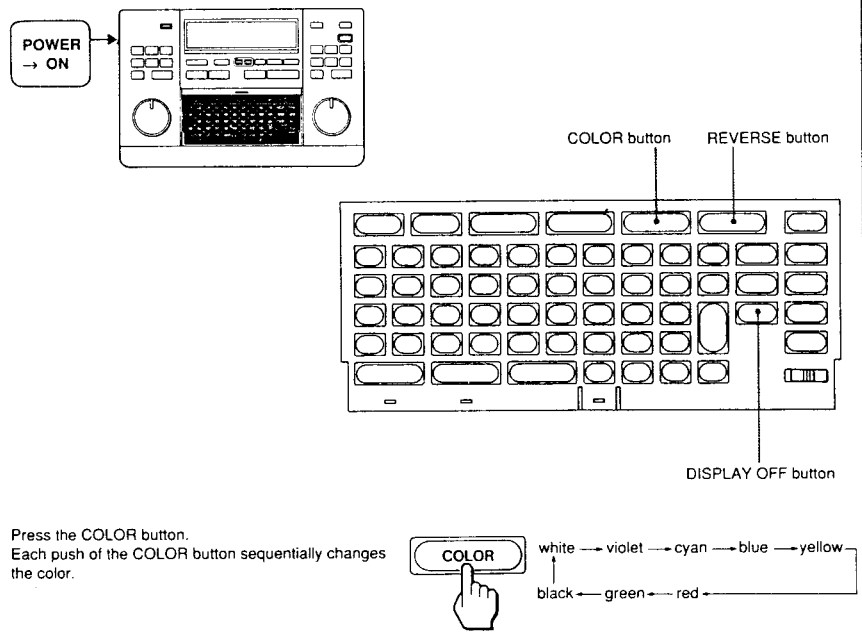
The momentary playback picture is memorized and added to the playback picture as a silhouette.

1	Play back the tape and select the scene to be memorized as the title.
2	Press the desired PAGE button.
3	Press the IMAGE button. The IMAGE mark is displayed in the display window.
4	Press the MEMORY button to memorize the picture.

Note

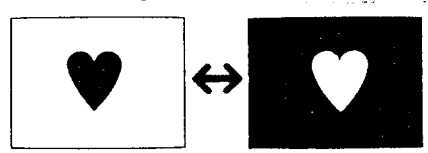
- The image is processed due to the brightness of the scene.
  Select the high contrast scene.
- When the picture is played back in the various speed playback mode or picture search mode, the picture may be disturbed or may not be memorized.

To Select the Color of the Title



Press the COLOR button.
Each push of the COLOR button sequentially changes the color.

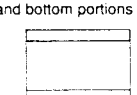
To Reverse the Color Scheme of the Title and the Background



Press the REVERSE button.
To release the reverse mode, press the REVERSE button again.

Note

When the picture is wrote fully on the screen, the picture written on the top and bottom portions cannot be memorized.

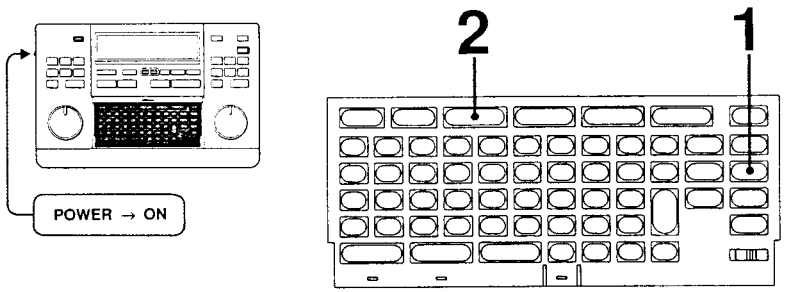


To turn off the title

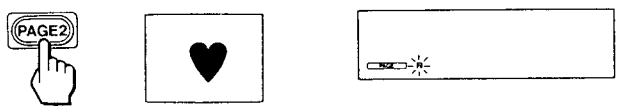
Press the DISPLAY OFF button.

7-18. TO OVERLAY THE CHARACTER TITLE AND THE VIDEO IMAGE MEMORY

Ex. When you want to overlay the video image memory in the PAGE 2 with the character title.



1 **Press the PAGE 2 button to display the memorized video image.**



2 **Press the CHARACTER button so that the CHARACTER indication is displayed in the display window.**

3 **Type the character.**

To overlay the memorized character title with the video image memory title.

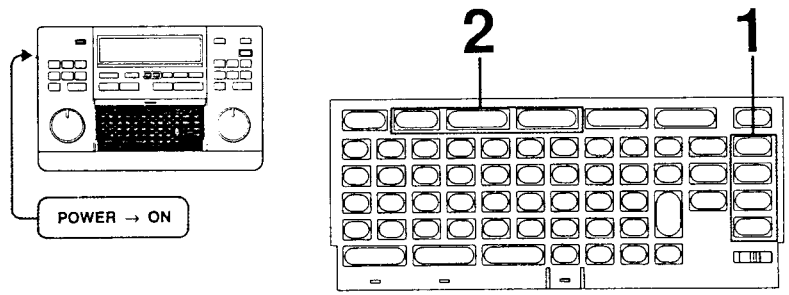
1 Press the appropriate PAGE button to display the memorized character title.

2 Press the iMAGE button.

3 Shoot the telop card with the video camera recorder and press the MEMORY button to memorize it.

7-19. TO CLEAR THE MEMORIZED TITLE

The character title and/or image memory title is cleared from one PAGE.



1 **Press the appropriate PAGE button to display the title(s).**

2

Memorized title	Title to be cleared	Button to be pressed
Character title	Character title	CLEAR
Video image memory	Video image memory	CLEAR
Character title and video image memory	Character title	CHARACTER and then CLEAR
Character title and video image memory	Video image memory	IMAGE and then CLEAR
Character title and video image memory	Both	CLEAR

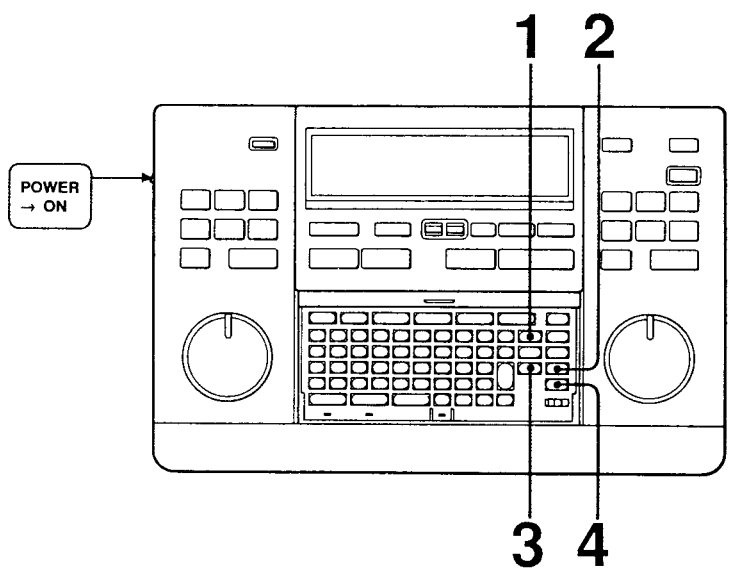
7-20. TO DISPLAY THE MEMORIZED TITLE

To Display the Title as It is

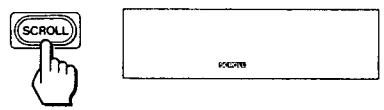
Press the appropriate PAGE button.
To turn off the title, press the DISPLAY OFF button.

To Scroll the Title from Bottom to Top

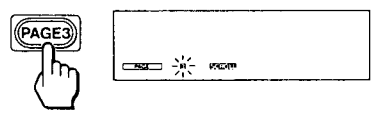
Ex. When you want to scroll the title memorized in PAGE 3.



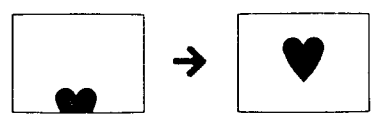
1 **Press the SCROLL button so that the SCROLL indication is displayed in the display window.**



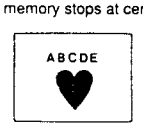
2 **Press the PAGE 3 button.**



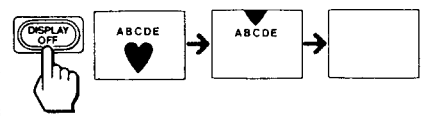
The title will be displayed from bottom to center.



When the character title is memorized with the video image memory, the character title appears after the video image memory stops at center.

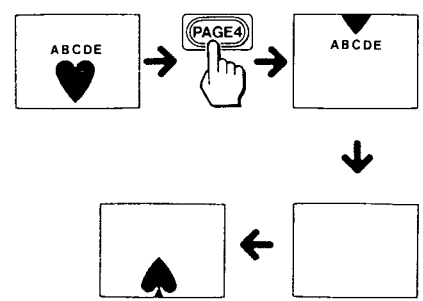


3 **To scroll the title from center to top, press the DISPLAY OFF button.**



When the character title is memorized with the video image memory, the character title disappear after the video image memory disappears.

4 **To scroll the title in the PAGE 4 continuously after the title in the PAGE 3 disappears, press the PAGE 4 button when the title in the PAGE 3 stops at center.**

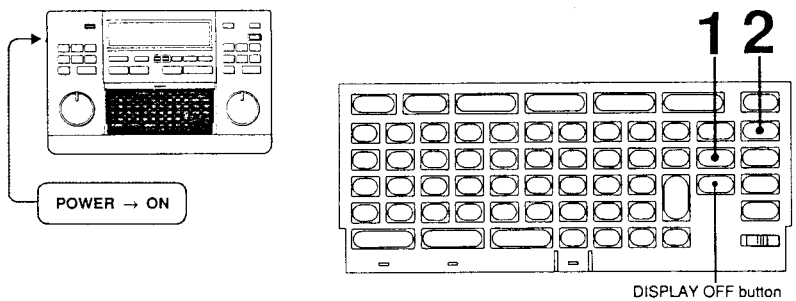


After the title in the PAGE 3 disappears, the title in the PAGE 4 appears from bottom.

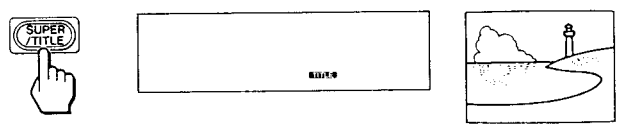
The character title cannot be scrolled.

7-21. TO COLOR THE BACKGROUND OF THE CHARACTER TITLE GRAY

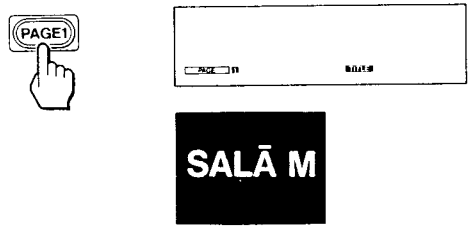
EX. When you want to color the background of character title in PAGE 1 gray



1 **Press the SUPER/TITLE button to display the TITLE indication.**
When this button is pressed again, the TITLE indication disappears and the SUPER indication appears.



2 **Press the PAGE 1 button.**
The background will be colored gray and the character title appears.

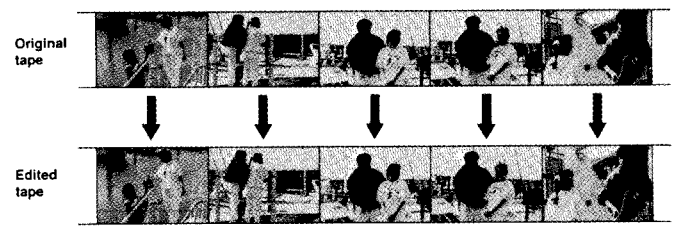


To erase the character title
Press the DISPLAY OFF button again.

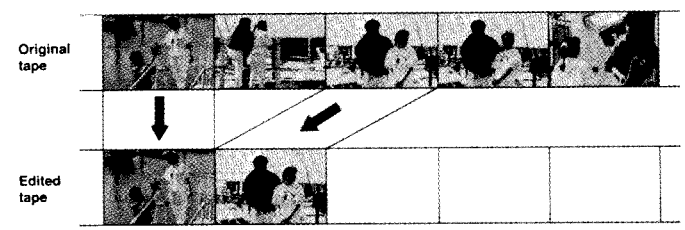
7-22. ABOUT THE WAYS OF EDITING

A tape recorded with the video camera recorder can be edited to a tape that consists of just the desired scenes, sequence and time.
This unit provides the following three ways of editing.

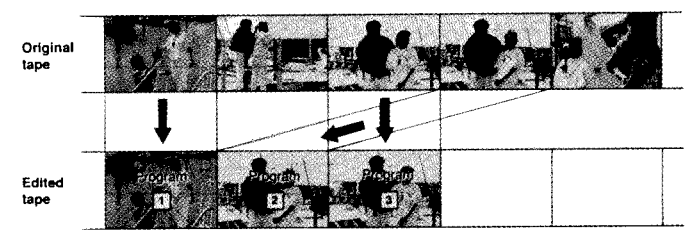
To edit the entire tape contents to another tape—Dubbing



To edit only desired scenes while viewing playback—Manual Assemble Editing



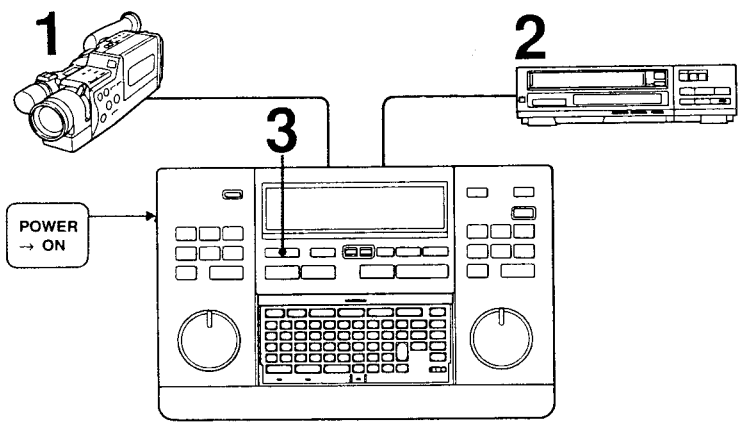
To edit only desired scenes automatically in the desired sequence—Automatic Assemble Editing



For better editing, check the original tape contents carefully and select the scenes to be edited.

This unit does not provides to decide the cut-in and cut-out points with the recorder (insert editing).

7-23. TO EDIT THE ENTIRE TAPE CONTENTS TO ANOTHER TAPE—DUBBING



1 Set the player to the stop mode.

2 Set the recorder to the stop mode at the recording start point.

3 Press the VIDEO EDIT button.
While dubbing, the VIDEO EDIT and CUT IN indications light.

To stop dubbing

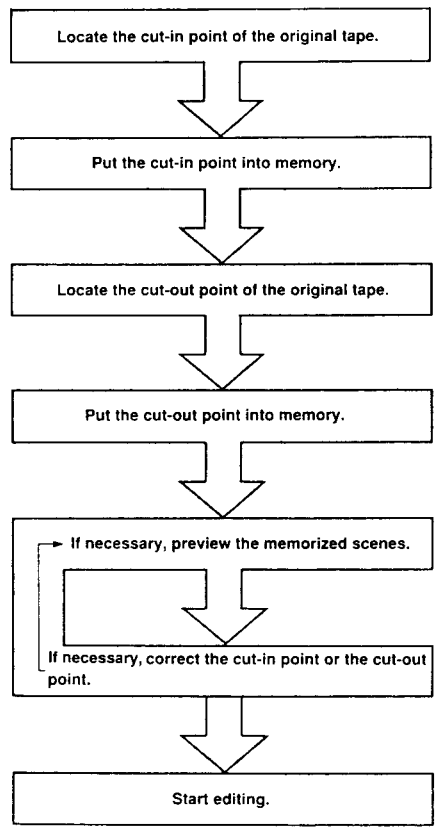
Press the VIDEO EDIT button again.

To superimpose a memorized title onto the tape being editing

Press the appropriate PAGE button during editing. To turn off the title, press the DISPLAY OFF button.
(For operations to scroll the title or to color the background gray, see pages 38 and 40.)

7-24. PREPARATIONS FOR EDITING

To Edit the Tape



Before Editing

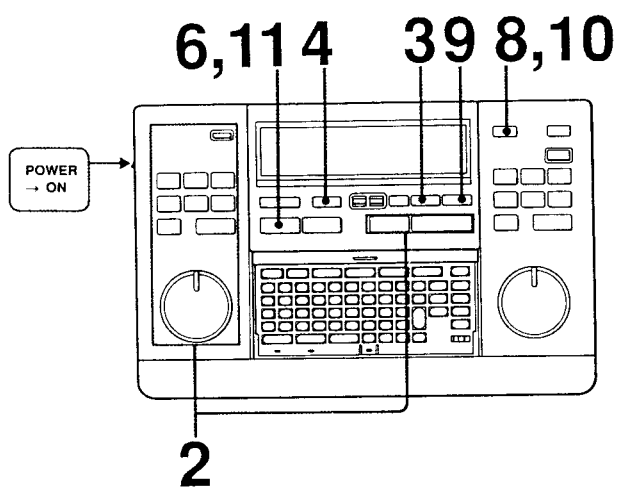
- Check the connections.
- Install the cassette to be played back into the video camera recorder and prepare for playback.
- Install the cassette for recording into the recorder and prepare for recording. Be sure that the tab on the recording cassette is not slid out.
- A cut-in point should be at least 10 counts of the tape counter after the beginning of the tape, and the cut-out point should be at least 3 counts before the end of the tape. With less space, the starting point may be missed or automatic assemble editing may not operate correctly.
- Please refer to the instruction manual of the recorder and the player.

To Record the Beginning of the Original Tape at the Exact Starting Point—Timing adjust

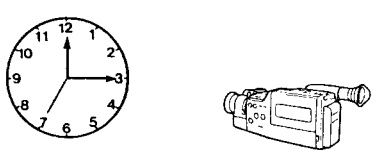
In automatic assemble editing, playback is started from 10 counts before the cut-in point and recording is started from the cut-in point. However, recording may start late with some VCRs, missing the starting point.

Use the timing adjust function to adjust the time lag of the recorder and to start the playback and recording simultaneously.

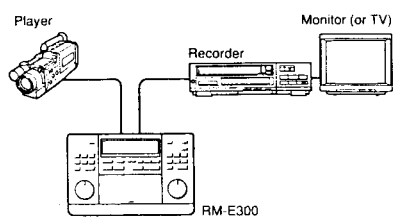
Timing adjust operation



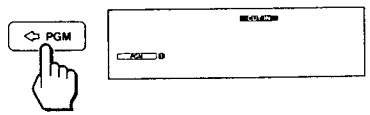
1 **Record a clock with a second hand for a few seconds using the video camera recorder.**



2 **Install the cassette into the player and locate the cut-in and cut-out points.** (See the "Automatic assemble editing" on page 52).



3 **Press the ← PGM button twice so that the CUT IN indication of the PGM [1] is displayed in the display window.**

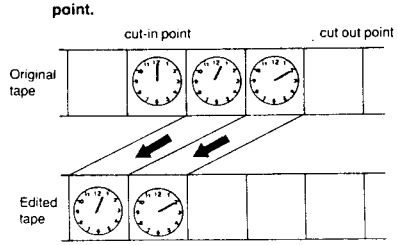


4 **Press the GO TO button.** The tape runs and stops at the cut-in point in the playback pause mode

5 **View the position of the second hand on the monitor.** This position is the cut-in point.

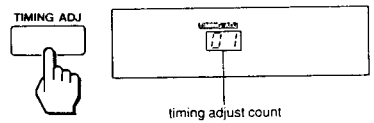
6 **Set the recorder in the recording pause mode and press the PGM EDIT button to start automatic assemble editing.**

7 **Play back the edited tape if the recording of the second hand is started at the exact cut-in point.**



The above illustration shows that the recording starts one second after playback.

8 **Press the TIMING ADJ button.**



9 **Press the PGM → button to set time lag.**

Time lag (sec.)	0,1	0,2	0,3	1
Timing adjust count	1	2	3	10

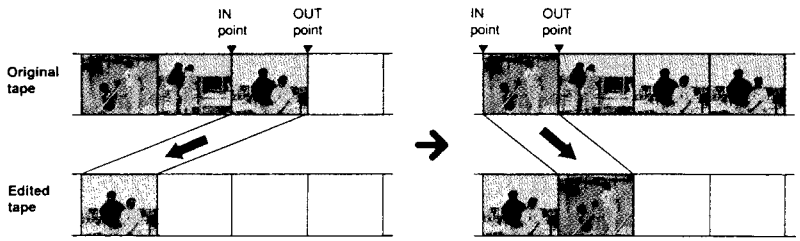
Each push of this button advances the timing adjust count. To reverse, press the ← PGM button.

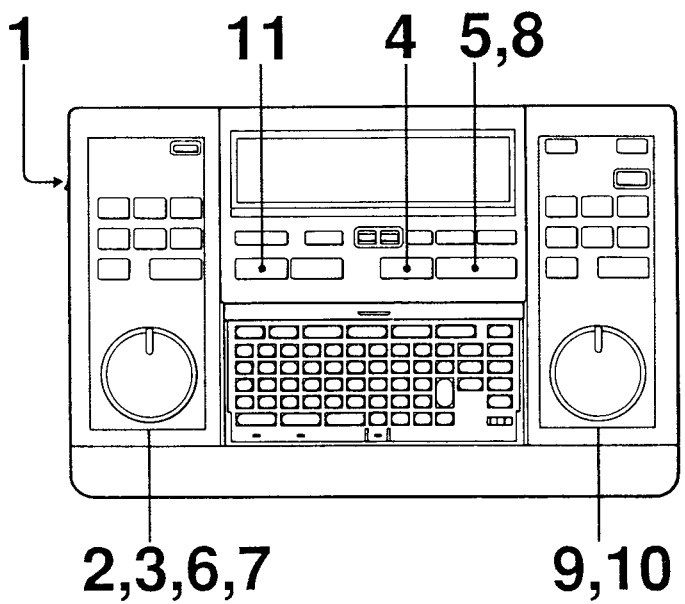
10 **Press the TIMING ADJ button.**
The setting of the timing adjust has been completed.

11 **Set the recorder in the recording pause mode and press the PGM EDIT button to start editing.**
Play back the tape and view the starting point.

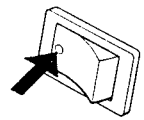
12 **Repeat steps 8 to 11 to set the timing adjust time so that the recording is started at the exact starting point.**

7-25. TO EDIT ONLY DESIRED SCENES WHILE VIEWING PLAYBACK —MANUAL ASSEMBLE EDITING

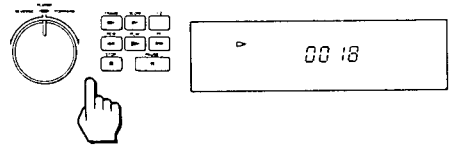




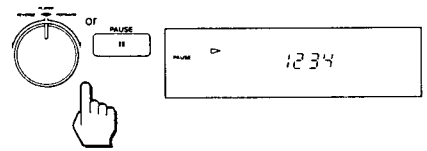
1 Turn on the power on this unit.



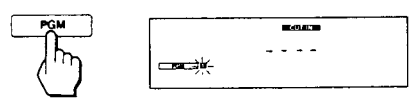
2 Locate the playback start (cut-in) point with the tape transport button and the shuttle dial for the player.



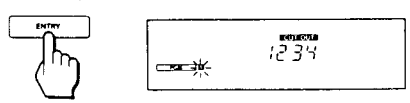
3 Set the player to the playback pause mode.



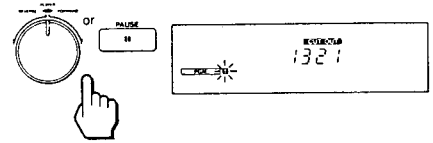
4 Press the PGM button.
The count number of the previous memorized cut-in point will be displayed for approximately 3 seconds. When the cut-in point is not memorized, the "----" will be displayed for approximately 3 seconds.



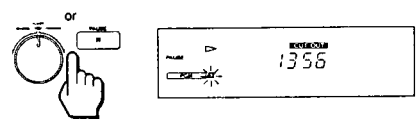
5 Press the ENTRY button.
The cut-in point of the PGM 1 has been memorized.



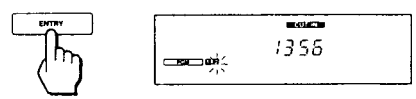
6 Release the playback pause mode with the shuttle dial or the ▮▮ button to locate the cut-out point.



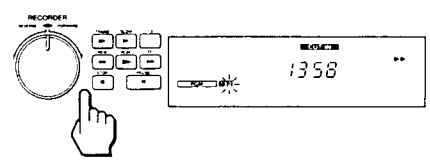
7 Set the player to the playback pause mode at the cut-out point.



8 Press the ENTRY button.
The cut-out point of PGM 1 has been memorized.

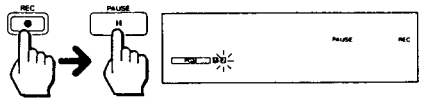


9 Locate the recording start point with the tape transport button and the shuttle dial for the recorder.

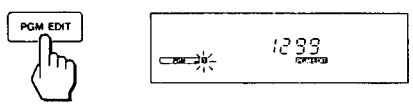


Continued

10 **First press the ● REC button, and then press the ❚❚ button to set the recorder in the recording pause mode at the cut-out point.**



11 **Press the PGM EDIT button.**
The editing will be executed.



Repeat steps 2 to 11 to edit the desired scenes.

To stop the editing

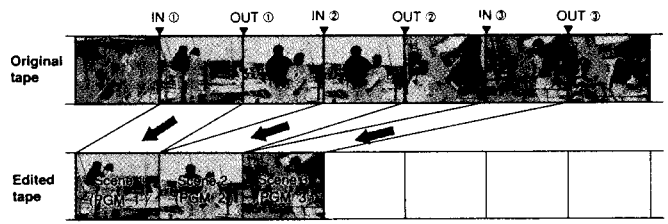
Press the ■ button for the recorder/player or the PGM EDIT button.

Notes

- When the pause mode is kept on for several minutes (depending on the VCR being used), the pause mode will be automatically released and the VCR will be set to stop or recording mode.
- When recording is resumed after the tape has been stopped with the ■ button, it is possible that a "rainbow effect" or a distorted picture will be seen in between the recordings when they are played back.

7-26. TO EDIT ONLY DESIRED SCENES AUTOMATICALLY IN THE DESIRED SEQUENCE —AUTOMATIC ASSEMBLE EDITING

For automatic assemble editing, preset all the cut-in and cut-out points of the scenes to be edited. Up to 8 scenes can be preset in this unit.
In automatic assemble editing mode, the required scenes on a tape can be edited automatically to another tape in the desired sequence simply by pressing the PGM EDIT button.

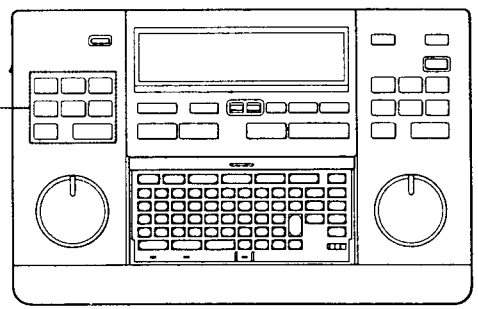


After selecting the scenes and pressing the PGM EDIT button, the automatic assemble editing completes the editing. So, this unit is equipped with a function to preview the memorized scenes or check the cut-in/cut-out points. (For details on previewing, see page 55.)

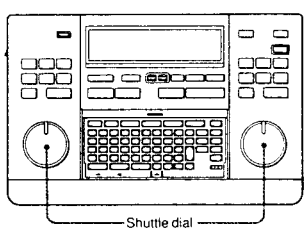
Buttons and Shuttle Dial to Locate the Cut-in and Cut-out Point

About the tape transport buttons

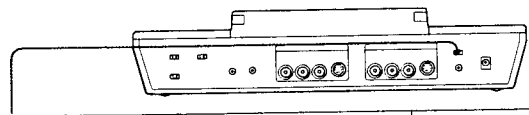
II▶ FRAME button
I▶ SLOW button
× 2 (double speed playback) button
◀◀ REW (rewind) button
▶ PLAY (playback) button
▶▶ FF (fast-forward) button
■ STOP button
II PAUSE button



About the shuttle dial

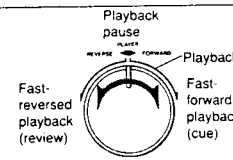


Shuttle dial for the player

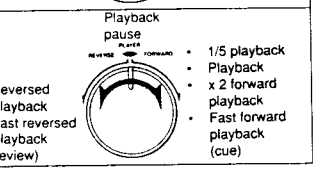


SHUTTLE A B

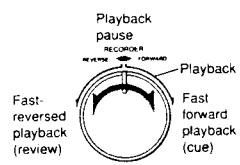
When the jog/shuttle remote control unit **cannot be used** for the player → Set to A



When the jog/shuttle remote control unit **can be used** for the player → Set to B



Shuttle dial for the recorder

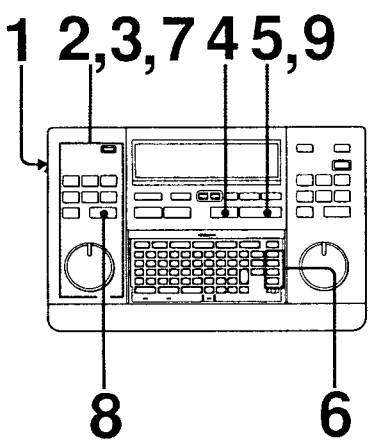


Note
To avoid mistakes, never operate the shuttle dial quickly. The VCR may not function according to the operations indicated on the shuttle dial.

When the recorder is not connected to the CONTROL L connector

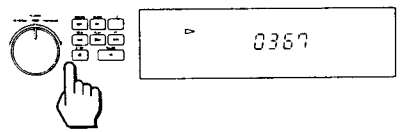
The shuttle dial may not function correctly.
- When the recorder is not set to the pause mode with the shuttle dial, (press the II button).
- When the locked picture search is operated on the Remote Commander on the recorder.
- When the recorder and the player response to the Remote Commander is slow.

To Locate the Cut-in and Cut-out points

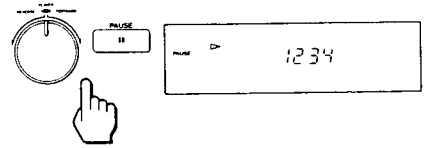


1 Turn on the power on this unit.

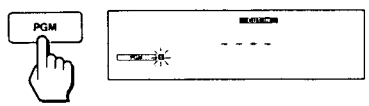
2 Locate the cut-in point (IN ①) of the original tape with the tape transport buttons and the shuttle dial.



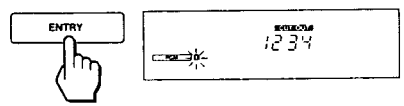
3 Set the player to the playback pause mode at the cut-in point



4 Press the PGM button.
The count number of the previous memorized cut-in point will be displayed approximately for 3 seconds. When the cut-in point is not memorized, the "----" will be displayed approximately for 3 seconds.

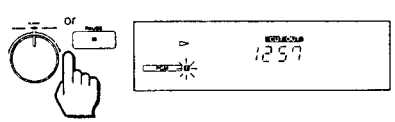


5 Press the ENTRY button.
The cut-in point of the scene 1 has been memorized as PGM 1 .

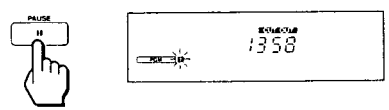


6 To superimpose the memorized title when the editing is executed, press the appropriate PAGE button.

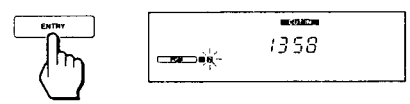
7 Release the pause mode of the player with the shuttle dial or ❚❚ button for the player to locate the cut-out point (OUT ①).



8 Press the ❚❚ button to set the player to the playback pause mode at the cut-out point.



9 Press the ENTRY button.
The cut-out point is memorized.

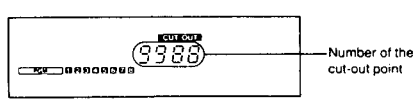


To memorize other scenes

Repeat steps 3 to 9. Up to 8 scenes can be preset.

After memorizing the 8 scenes

The indications are displayed as follows.



To stop memorization of the scene

Press the PGM button.

To scroll the title or color the background gray

See pages 38 and 40.

Notes

- If the scene from the cut-in point to the cut-out point is too short, the scene will be ended before the scroll is completed.
- When the scrolling of the title from center to top is set at the cut-out point, the scrolling is started at the cut-out point. Therefore the actual cut-out point will be set after the title disappears.

About the Time Lag in Automatic Assemble Editing

The recorder is controlled by the tape transport signal of the player. However the cut-in and cut-out points of the recorder may not coincide with those of the player for the following reasons.

— The editing point is decided by the count number (not the frame).
— A time lag is caused between the playback picture and the count number of the player.
— The recorder starts recording after the decided cut-in point.

To reduce the time lag between the playback picture and the count number of the player

- Locate the cut-in and cut-out points with the picture search (cue or review).
- Reset the counter with the COUNTER RESET button from the beginning of the tape. When tape editing of the same scenes is to be repeated, reset the counter at the same point before editing tape.

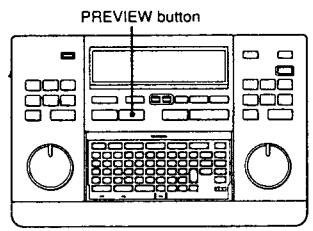
About the time lag of the recorder caused by a rise time

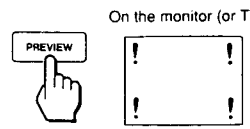
Some VCRs may take a time to start recording from the recording pause mode. Therefore the beginning of the edited tape may not be recorded. To avoid this, this unit is equipped with a timing adjust function (page 44).

For Editing Rehearsal—Preview

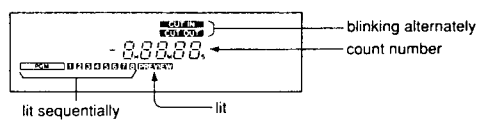
The picture to be recorded is monitored before actual editing. In the preview mode, only playback is executed.

Press the PREVIEW button.





The ! marks appear at the corners of the recorded portion.



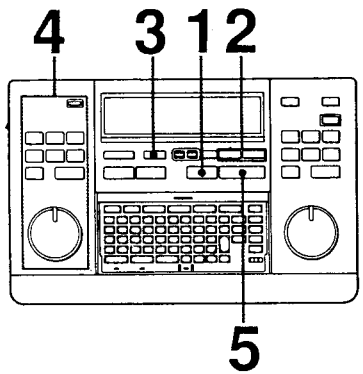
To stop the previewing that is in operation

Press the PREVIEW button again.

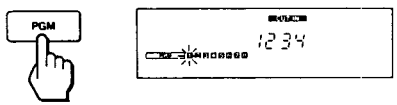
To execute the editing ➡ See page 58.
To change the editing point ➡ See page 56.

To Change the Editing Point

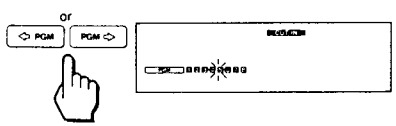
Ex. 8 scenes are memorized.
When you want to change the cut-in point of the scene 5 (PGM 5).



1 **Press the PGM button.**

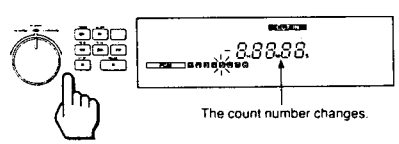


2 **Press the ← PGM button or the PGM → button so that PGM 5 blinks and CUT IN lights.**



3 **Press the GO TO button.**
The tape stops at the cut-in point of scene 5 and the player is set in the playback pause mode.

4 **Locate the new cut-in point with the tape transport buttons and the shuttle dial.**



5 **Press the ENTRY button at the new cut-in point to be memorized.**

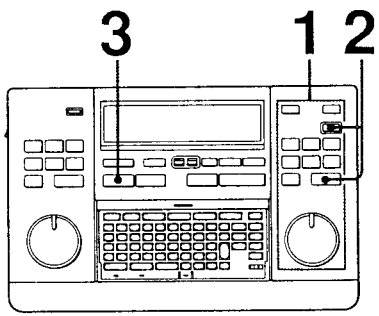
To change the cut-out point

1 After step 5, press the PGM → button so that the CUT OUT indication of PGM 5 lights.
2 Press the GO TO button.
3 Locate the new cut-out point.
4 Press the ENTRY button at the new cut-out point to be memorized.

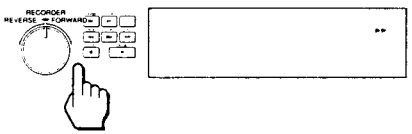
When the following cut-in or cut-out point has not been set
After changing the cut-in or cut-out point, the following cut-in or cut-out point can be set continuously.

Note
The editing point can be changed once after pressing the ← PGM or PGM → button. To change again, press the ← PGM or PGM → button again.

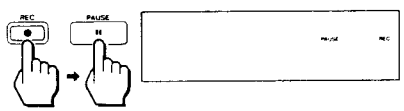
To Execute Automatic Assemble Editing



1 Locate the point where you want to start a new recording with the tape transport buttons or the shuttle dial.

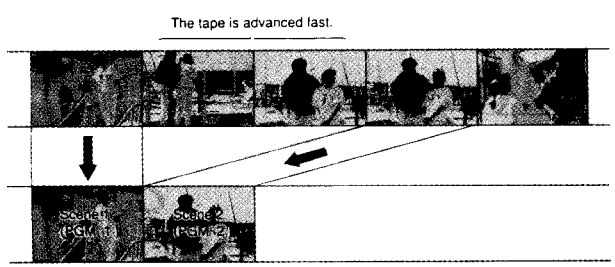


2 First press the ● REC button, and then press the ❚❚ button to set the recorder in the recording pause mode.



3 Press the PGM EDIT button.
Automatic assemble editing is executed.

On the monitor (or TV)



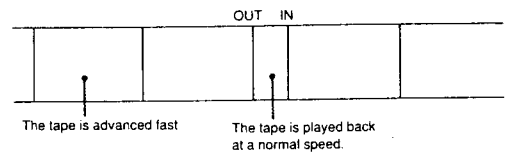
To superimpose the title during editing

Press the appropriate PAGE button at the desired point.

To turn off the title

Press the DISPLAY OFF button at the desired point.

When the cut-out point of the previous scene is close to the cut-in point of the next scene
The picture between the cut-out and cut-in points is played back at a normal speed.



To stop automatic assemble editing

Press the PGM EDIT button.

To start recording smoothly

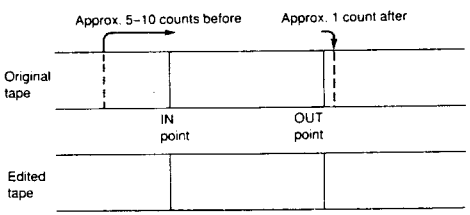
Set the recorder to the playback pause mode and then press the ● REC button.

Notes

- When the time between the cut-out point of the previous scene and the cut-in point of the next scene is more than several minutes (depending on the VCR being used) with the search function, automatic assemble editing is impossible.
- After setting the programs
  — Never press the COUNTER RESET button on the player.
  — Never eject the cassette from the recorder.
  Any of these actions will cause a missetting of the cut-in and cut-out points.

To avoid missing the cut-in and cut-out points

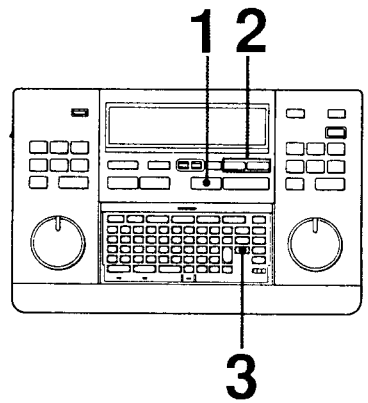
In automatic assemble editing, the player starts playing back approximately 5 to 10 counts before the cut-in point and remains in playback approximately 1 count after the cut-out point. The recorder records the picture between the cut-in and cut-out points.



To Erase the Program

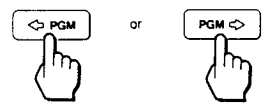
To erase only the title from the program

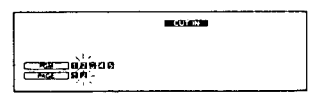
Ex. When you want to erase the title of the PAGE 2 superimposed onto the scene 2 (PGM 2).



1 **Press the PGM button.**

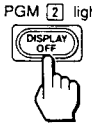
2 **Press the ← PGM or PGM → button to display the PGM 2 and CUT IN or CUT OUT indications.**





The title will appear

3 **Press the DISPLAY OFF button.**
PGM [2] lights.



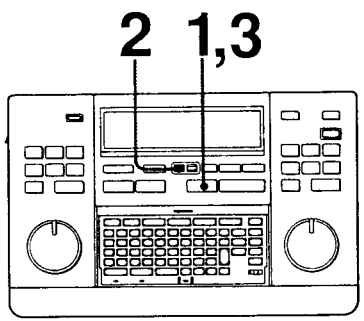
The title will disappear.

To exchange titles

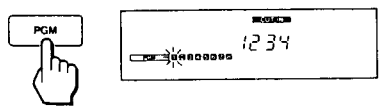
1 Press the ← PGM or PGM → button to display the desired program number and CUT IN or CUT OUT indications.

2 Press another PAGE button.
The new title will be superimposed.

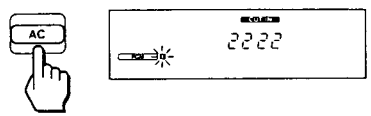
To erase the memory of all the programs



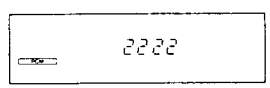
1 Press the PGM button.



2 Press the AC button.

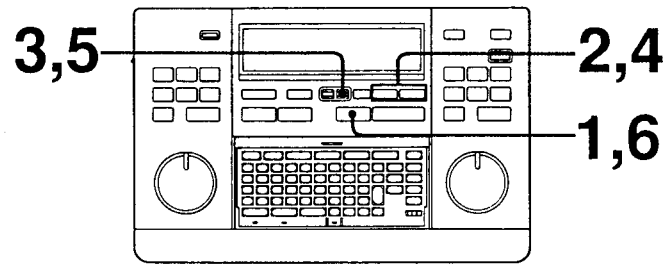


3 Press the PGM button.



To erase the memory of a certain program

Ex. When you want to erase scene 6 (PGM 6).

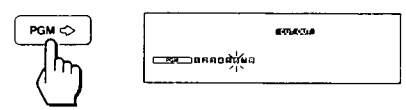


1 Press the PGM button.

2 Press the ← PGM button and PGM → button so that PGM 6 blinks.

3 Press the C button to erase the cut-in point of the scene 6.

4 Press the PGM → button so that PGM 6 blinks.



5 Press the C button to erase the cut-out point of the scene 6.

6 Press the PGM button.